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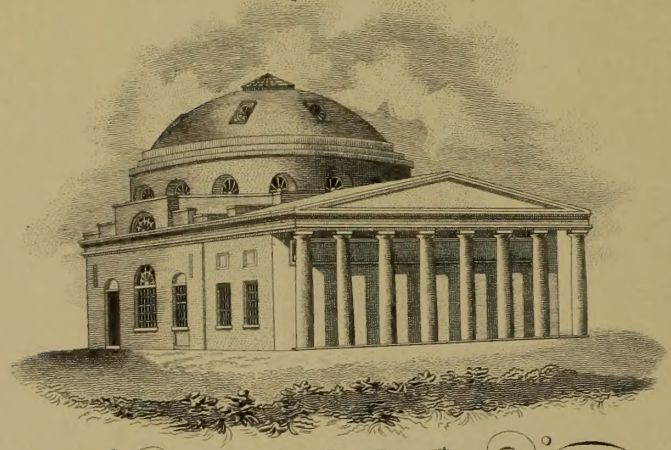

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

THESES

1882 (d)

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Shoemaker, W.J.	Alcohol	
Clark, S. Corbin	Management of Natural Labor	
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Clark, Charles B.	Hypodermic Medication	
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Butler, George W.	Epilepsy	(legal paper, folded pages)
Butler, J. Camp	Diseases of the Eye	
Malone, Frederick R.	Atmospheric Air	

[1] Date uncertain. Could be 1881.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

Author	Title	Notes
Holliday, William L.	Opium	
Piggot, Cameron	Diphtheria	
Sommerville, Richard H.	Diphtheria	
Nelson, William	Inflammation	

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1882 (d)

Stahle, R. S.	Surgery	29p. (partially faded ink)
Pennington, C.	Chemistry of Amyl Nitrite	34p.
Shoemaker, W. J.	Alcohol	17p. (partially faded ink)
Clark, S. C.	Management of Natural Labor	34p. (partially faded ink)
Wright, J. D.	Uses of Salicin	36p.
Steuart, C. C.	Pneumonia	24p. (partially faded ink)
Clark, C. K.	Hypodermic Medication	33p.
Green, John S.	The Kidney and Its Functions	20p.
Campbell, H. C.	Scarlatina	18p.
Zimmerman, C. O.	Scarlet Fever	23p.
Steel, C. L.	Oxygen in Its Realtions to Medicine	29p.
Hill, L. V.	Opium	19p.
Austin, C. L.	Hemorrhage	27p.
Butler, G. W.	Epilepsy Bound Differently	10p.
Butler, T. C.	Diseasess of the Eye	40p. (partially faded ink)
Malone, F. R.	Atmospheric Air	16p.
Holliday, WM. L.	Opium	26p.
Piggot, Cameron	Diphtheria	28p. (partially faded ink)
Sommerville, R. H.	Diphtheria	23p.
Nelson, Wm.	Inflammation	22p. (partially faded ink)

An

Inaugural Dissertation

on

Surgery

Submitted to the Examination

of the

Provost Regents & Faculty of Physics

of the

University of Maryland

For the Degree

of

Doctor of Medicine

by

[illegible] 54

[illegible] [illegible]

1862.

06631

Founded 1813

Surgery.

The ward

Thesis.

Respectfully submitted to the

Dean + Faculty of Medicine

of the University of Maryland.

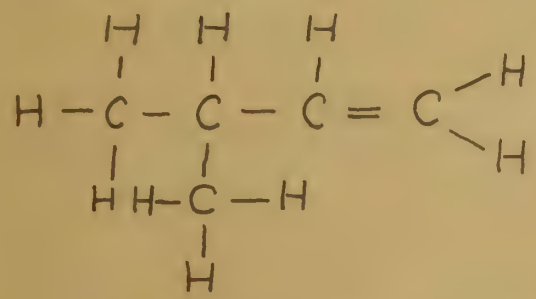
Clapham Pennington.

Chemistry, Physiological
Action, & Therapy of
Amyl Nitrite.

Chemistry of Amyl Nitrite.

Amylene, or Quintene, is the fourth member of the second series (Olefines) of hydrocarbons which commences with the hypothetical hydrocarbon methene (CH_2).

It has the general formula C_5H_{10}, & the structural formula



Amylene is a thin, colourless, volatile, inflammable liquid possessing a disagreeable odour: boiling at 34°–35° C. & of 0·663 sp. g. at 0° C.

Soluble in alcohol & ether, but insoluble in water.

When ignited it burns with a bright, very smoky flame.

It is prepared, together with di-amylene, tri-amylene, & a small quantity of other hydrocarbons, by the distillation of amyl alcohol & fermentation over zinc chloride.

Amylene was at one time used as an anaesthetic; but it has been discarded on account of several deaths having occurred during its administration.

Amyl, a Amylic, Alcohol.

This alcohol can be obtained from amylene, but the process is too expensive for practical purposes — Amylene (C_5H_{10}) + hydrochloric acid (HCl) = hydrochlor-amylene ($C_5H_{11}Cl$). Hydrochlor-amylene + potassium

hydroxide (KOH) = amyl alcohol ($C_5H_{11}(OH)$) + potassium chloride (KCl).

Eight isomeric alcohols of this composition ($C_5H_{12}O$) can exist, viz: four primary, three secondary, & one tertiary.

Of these five are known; two primary, two secondary, & the tertiary.

They are —

1. Normal amyl alcohol — $CH_3 \cdot CH_2 \cdot CH_2 \cdot CH_2 \cdot CH_2 \cdot OH$. Boiling at 137°C.

2. Amyl alcohol of fermentation, the principal constituent of fusel oil — $\begin{matrix} CH_3 \\ CH_3 \end{matrix}\!\!>\!CH \cdot CH_2 \cdot CH_2 \cdot OH$. Boiling at 130°–131°C.

3. Iso-amyl alcohol —

$CH_3 \cdot CH_2 \cdot CH_2 \cdot CH \cdot OH \cdot CH_3$. Boiling at 120°C.

4. Amylene hydrate — $\begin{matrix} CH_3 \\ CH_3 \end{matrix}\!\!>\!CH \cdot CH \cdot OH \cdot CH_3$

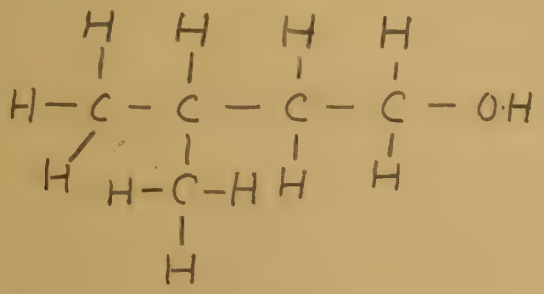
Boiling at 105°–108°C.

5. Tertiary amyl alcohol, pseudo-amyl alcohol, ethyl-dimethyl-carbinol — $\begin{matrix} CH_3 \\ CH_3 \end{matrix}\!\!>\!COH \cdot CH_2 \cdot CH_3$. Boiling at about 100°C.

The only alcohol, which it is necessary to consider in this connection is amyl alcohol of fermentation: from it amyl nitrite is always prepared.

Amyl alcohol of fermentation has the

general formula $C_5H_{12}O$, & the structural formula



it is a thin, oily, colourless liquid, having a pungent, penetrating, & oppressive odour, & burning acrid taste; boiling at 130°–131° C. & of 0·825 sp. g.

It congeals at −25° C. crystallizing in laminæ.

Soluble in alcohol & ether, but only very slightly soluble in water, to which, however, it imparts its odour

& taste.

When treated with sulphuric acid it assumes a deep red colour.

It ignites easily, burning with a blue flame.

During the process of fermentation, in the manufacture of spirits from corn or potatoes, some amyl alcohol is produced, most of which passes over with the last portion of the first distillation which contains besides amyl alcohol, ethyl, propyl & iso-butyl alcohols, & other

substances differing with the source of the fusel oil, & water.

The fusel oil in solution in the distilled spirit is obtained in purifying the latter, either by fractional distillation, or "leading".

Commercial fusel oil contains from 20 to 30 per cent. of ethyl alcohol: most of this alcohol may be removed by first repeatedly washing with water & then distilling over calcium chloride.

Amyl alcohol, when carefully prepared from purified fusel oil by fractional distillation, boils constantly at 130°–131° C.

When prepared from crude fusel oil, or when the distillation has been conducted in a careless manner, an amyl alcohol may be obtained which boils at 128°–129° C. but this product when distilled fractionally in a suitable apparatus, can be separated into amyl alcohol boiling at 130°–131° C. & the other isomeric

amyl alcohols having a lower boiling point.

Two isomeric amyl-alcohols of fermentation are known to exist: they have the same vapour-density, but differ in their optical properties, one of them being dextrogyrate while the other is optically inactive. This optical difference probably depends upon the arrangement of the molecules.

Amyl alcohol which after several distillations passes over at from 128° to 132° C. is sufficiently pure for the preparation of Amyl Nitrite.

Amyl Nitrite, $C_5H_{11}NO_2$, (Amylis nitris, amyl nitris, amylum nitrosum, amyl-aether nitrosus, amylo-nitrous ether; Nitrite of Amyl), is an ethereal, amber-colored, extremely diffusible & volatile, inflammable liquid, possessing an odour of over-ripe pears; boiling at 96°C. & of 0.877 sp. g. (authorities differ both as to the boiling point & sp. g.); soluble in alcohol, but insoluble in water.

There are several methods of preparation

recommended — The following
is much the best method:
Nitrous acid, prepared from
arsenious, & nitric acid is
passed into pure amyl alcohol
at a temperature of 70° to 90° C.
until the odour of amyl
alcohol is no longer perceived.
The distillate is rapidly agita-
ted with magnesia, or a dil-
ute potassa solution, then de-
hydrated by, & finally rectified
over calcium chloride which
must not be alkaline; only
the portion distilling between 94°
& 96° C. being collected. It is then
free from acid reaction

has a pale yellow colour, + peculiar characteristic odour, a boiling point of 96° C. + sp. g. of 0877. In contact with air it soon acquires an acid reaction . . . . . the author suggests to preserve the amyl nitrite by the addition of a little fused, pure calcium chloride, or calcined magnesia."

(Hilger. Amer. Jour. Phar. 1874. p 416)

All the methods of preparing amyl nitrite are based upon the following reaction:

$$2\left(\begin{matrix}CH_3\\CH_3\end{matrix}\!\!>\!CH\cdot CH_2\cdot CH_2\cdot OH\right) + N_2O_3 = 2\left(\begin{matrix}CH_3\\CH_3\end{matrix}\!\!>\!CH\cdot CH_2\cdot CH_2\cdot NO_2\right) + H_2O.$$

Amyl nitrite which distills between 95°+100° C. is sufficiently pure for medical purposes.

The amyl nitrite of commerce is usually a very impure substance: it may contain nitric, nitrous, hydrocyanic, valerianic, & valeric acids; amyl-nitric & amyl-valerianic ethers; amyl valerianate, nitro-pentane, nitrate of amyl, amyl-alcohol; water &c.

" I have examined specimens of nitrite of amyl " from reputable houses & have " found boiling points between "

70° + 180°C. Such products, it is needless to say, have never been rectified. The whole result of the action has been distilled + bottled as nitrite of amyl. One specimen had not entirely distilled at 220°C. another contained about ten per cent. of water, twenty-five per cent. of nitrite of amyl (90° to 105°C), + the remainder was composed almost entirely of unaltered amylic alcohol". (Green. Amer. Jour. Phar. 1879. p. 65-).

The difference observed in the boiling points of different samples of amyl nitrite

cannot be due to the use of a mixture of the two isomeric amyl alcohols of fermentation, because the resulting isomeric amyl nitrite have nearly the same boiling point.

Nitropentane is almost always present in commercial amyl nitrite; it has a boiling point of about 160°C. & consequently will raise the boiling point of any specimen of amyl nitrite in proportion to the amount present.

Physiological Action of Amyl Nitrite

When five, or six, drops of amyl nitrite are inhaled it produces sudden flushing especially of the face; acceleration of the heart's action, but diminution of its force; vertigo & sense of external fullness of the head; hurried breathing as after rapid walking; reduction of temperature from 1 to 1.5° C.

It has no apparent effect upon general sensi-

bility.

Sudden flushing, + acceleration of the heart's action, are due to two causes; sudden dilatation of the arterioles, consequent upon paresis of the muscular layer of these vessels — in consequence of this dilatation more blood enters these vessels + so reduces the arterial resistance, + the psychic state which is induced in the inhibitory cardiac centres.

Lowering of the blood-pressure is also due to the dilatation of the arterioles

+ the consequent lessening of tension in the peripheral circulation.

Vertigo + sense of fullness of the brain are also caused by sudden dilatation of the arteries of the brain.

Reduction of temperature is due to a peculiar action which amyl nitrite has upon haemoglobin whereby its oxidation to oxy-haemoglobin is interfered with; cyanosis in the tissues, in consequence of this action, is lessened + reduction of temperature ensues — In consequence

of the lessened oxidation of the haemoglobin the blood assumes a modified venous hue.

It has been shown by ophthalmoscopic examination that the vessels of the retina dilate when amyl nitrite is inhaled.

Amyl nitrite seems to act principally upon the vaso-motor, cardio-inhibitory & respiratory centres of the medulla oblongata, & upon the motor centres of the spinal cord.

Circulating in small

quantity in the blood it acts principally upon the vaso-motor system.

In toxic doses amyl nitrite lessens excitability to all forms of irritation, impairs muscular contractility & lessens reflex action.

When applied directly to muscular or nervous tissue it suspends, or completely arrests, functional activity.

Death ensues from failure of respiration — the cerebral functions remain

unimpaired until
carbon-dioxide narcosis
supervenes.

Therapy of Amyl Nitrite.

Angina Pectoris.

This disease is accompanied, if not caused, by a spasmodic contraction of the arterioles of the heart.

When inhaled, during a paroxysm, it relieves the severe pain in the region of the heart, & usually, removes the feeling of impending dissolution which accompanies this disease.

It will abort an attack if inhaled upon the

appearance of the first symptoms.

Advanced stage of fatty degeneration of the heart, & an atheromatous condition of the arteries are said to counterindicate its use.

Amblyopia.

When due to an insufficient supply of blood to the retina, may be relieved by this remedy — its use must be continued for sometime.

Asthma

If purely spasmodic

is promptly relieved by the inhalation of a few drops of amyl nitrite.

It has little, or no, effect upon [illegible]

[illegible]

Chloroform.

[illegible]

Carbon-dioxide Narcosis.

It has been used

successfully in several cases.

Cholera Asphyxia

Amyl nitrite is recommended upon theoretical grounds: it must be given either by the mouth, or hypodermically.

Chloroform Narcosis.

In moderate quantity it has been used with the effect of relieving nervous cases where death seemed imminent — If too much be given it increases the narcosis, instead of relieving it.

Chorea.

It has been tried with success in this disease.

Dysmenorrhoea. Neuralgic,

May be relieved by the inhalation of amyl nitrite during an attack.

Eclampsia, Infantile,

It is of most use when the paroxysms are due to reflex-action caused by teething, intestinal irritation & inflammation, &c.

Eclampsia. Puerperal,

Its use in this disease is based upon theory.

Frank & Rosenstein refer the occurrence of puerperal eclampsia to an anaemic condition of the cerebro-spinal system resulting from changes in the blood incident to pregnancy.

Uran Donald believes puerperal eclampsia to be caused by irritation of the vaso-motor centres in consequence of an anaemic condition of the blood produced by retention in it of excrementitious matters which the

kidneys ought to have re-
moved; this over-stimulation
resulting in anaemia
of the deeper seated nerve
centres & consequent Convul-
sions.

Symptoms of cerebral
congestion counteracted
by [illegible].

Epilepsy.

[illegible], when
preceded by the "aura epileptica", may be aborted.

It has no curative
power.

Hemorrhage.

Amyl nitrite has been used with success in several cases where fatal syncope, from hemorrhage seemed imminent.

Hiccough.

A persistent attack can be relieved by the inhalation of a few drops.

Hydrophobia

It will not cure, but lessens the horror of impending dissolution, & allows the patient to take food & drink.

Hysterical Convulsions.

Amyl nitrite will relieve an attack, but has no power over the course of the disease, nor does it lessen the number of the seizures.

Intermittent Fever.

It aborts the paroxysm when inhaled during the cold stage.

Laryngitis. Mark,

Its administration has been followed with relief of symptoms in this disease.

Opium Habit.

The insomnia which sometimes accompanies the excessive use of opium, may be relieved of to use.

Pertussis.

Amyl nitrite when inhaled will cut short an attack of pertussis (coughing).

Syncope

A man, suffering from hypertrophy + dilatation of the heart was relieved from an apparently fatal attack of syncope by six doses.

Sanitarium.

It is highly recommended in this affection.

Strychnia Poisoning.

Amyl nitrite may be tried in case of strychnia poisoning: its effects must be kept up until the poison is eliminated.

Tetanus.

Tetanus has been treated, with success, by amyl nitrite.

Administration.

Amyl nitrite may be given either, by inhalation, by the mouth, or hypodermically.

It is almost always given by inhalation; the dose is from three to five drops.

When frequently used the dose has to be increased - as much as a drachm has been inhaled, at a time, without unpleasant effects.

February 7th 1872.

J. H. Lyon Asst. Baltimore.

A Sketch

on

Alcohol

by

H. J. Shoemaker

1882.

Alcohol

It is not some new drug to which we call attention in this paper.

From almost time immemmorial alcohol has had a close relationship to mankind. And, as we look back over this vast period of time with a view to press upon its usefulness in the arts, it becomes a problem too intricate and profound to say whether civilization would not have been more grand and humanity less depraved had it never existed.

True it is, indeed, that alcohol has been a most potent factor in the heinous crimes, debauchery, and inhumanity to man, that have always followed its use.

The human wrecks that lay strewn up on the shores of time, the soul, broken hearts of widows and orphans now registered as its trophies, & speak more eloquently than volumes written by our feeble hands.

This moral aspect of our subject may not be directly within our province, as physicians, to discuss, however it is impossible for us, as honorable men, to wholly ignore it.

And while we still cling to alcohol as a drug - for drug alone it is - most important in our efforts to soothe the sick, far be it from us to enslave any human being from our

thoughtless or indiscriminate use of this invaluable medicine.

Leaving then the question as to the general use of this agent by the laity, for others to decide and with the hope that our chosen profession may never be compelled to suffer its loss, we shall now proceed to consider it in detail.

But in this consideration, we shall designedly aim to be seen what empirical and practicable at the expense of a more strictly scientific production.

Alcohol C_2H_6O is the hydrated oxide of ethyl. It is a peculiar product which is generated in some fermenta-

tion. The necessary constituents of this fermentation are a solution of grape sugar and some ferment or catalytic agent.

A certain range of temperature must be maintained for this action to progress favorably. Both excess of heat and cold will check it, the medium or ferment being thus rendered inert.

In the juices of the various fruits are to be found the necessary elements. Hence when they are exposed to heat the process is set up. Thus, grape juice ferments into wine, apple

juice into cider, infusions of barley into malt liquors etc.

All liquors which have been thus produced are called fermented liquors and contain a variable amount of alcohol.

It is never very great however; for in the stronger wines it does not exceed twenty three per cent, and it may be as low as six per cent in the weakest; white beer, ale, porter, and the various other malt liquors contain only from three to eight per cent.

The ardent spirits are the liquors which have undergone the process of distillation; such are

brandy, rum, gin, etc.

They are rich in alcohol, containing from forty four to fifty five per cent

To obtain the alcohol a solution of grape sugar with the ferment of a fermenting body is thus generated and carbonic acid and alcohol are separated from the water by repeated distillation.

There are three grades of strength of alcohol, all of which have a specific gravity less than one thousand

The specific gravity of proof spirit is 0.930: of official alcohol 0.838 and of absolute alcohol 0.794.

It is a colorless inflammable

liquid, entirely vaporizable by heat, boils at 172°, and has never been frozen. It has a strong affinity for water, which increases just in proportion to its purity, and is with difficulty entirely deprived of it. It is a powerful [illegible] [illegible] [illegible] [illegible]; it condenses albumen by abstracting water, and for this reason, it is not the best preserving agent, in which to keep specimens, as it shrinks them too much.

If alcohol is applied to external surfaces it produces a sensation of coldness; applied to mucous membranes it produces a sensation of

burning.

This difference is due to the fact that in the first instance it is in contact with the air and is excluded from air in the second.

Alcohol is by far the most potent stimulant in our possession.

Its action is directed to the nervous system, and is very quick and forcible; but the immediate action is transient.

Nothing is definitely known as to the mode in which it does its work; but it seems probable that it acts upon the molecular arrangement of the nerve cell themselves.

In small doses it excites the nervous

while in opium poison the pupil
is contracted.
This is not invariably the case since
in the latter, the pupil may be so
slowly enlarged that the fibres be-
come exhausted and allow it to wide-
ly dilate; [illegible]
[illegible]
The respiration is slow; laborous,
and stertorous; pulse slow and fee-
ble, and the body temperature reduced
The principle of treatment in cases
of poisoning from alcohol is the same
as that which is to be pursued in cases
of poisoning from opium.
In the extreme depression by al-

cohol, any further administration of it, as a stimulant, would only increase the depression. Hence we should use [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] of liquor ammonia, to arouse the flagging heart. The Faradic current should also be employed to sustain the respiration – one pole on the phrenic nerve [illegible] [illegible] [illegible] [illegible] [illegible].

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] these, such as warmth, applied by means of [illegible] [illegible], friction etc.

The habitual and continued use of alcoholic narcotics gives rise to a train of mental and physical disorders which we may call chronic alcoholic poi-

oning.

Hypertrophy of the mucus membrane of the stomach drunkard's stomach is the most common result of such excesses. The next are changes in the liver, constituting a condition known as hob nailed liver, nutmeg-liver, gin-liver etc. The capsule of the liver is always thickened, induration and rhosis ensue and thus a very intractable condition established.

The kidneys also are modified in structure and impaired in function whilst upon the nervous system, delirium tremens is a very common result; more rarely paralysis occurs, and even confirmed insanity, in some instances.

Having thus far treated our subject only as to its properties and physiological effects, we will now act in some of the most important medicinal uses.

It may be said in a general way that alcohol is directed to symptoms rather than to causes of disease. In this it differs from the various haematic agents, they being employed mostly against the latter; also from opium whose action seems to be in a manner too fold.

The nerves supplying the heart are the cardiac ganglia, the [illegible] and the pneumogastric nerves, and through these channels alcohol may affect or modify its action.

Was great [illegible] of the heart [illegible]

pends upon depressing influence on the sympathetic nerve rapidity upon like influences on the pneumogastric while the organ may be variously influenced by its inherent nerves.

From this it is plain to see that alcohol by quickening nervous impulse generally may stimulate these nerves and in that mode prove most useful in various conditions.

It is our chief dependance when required in low forms. It is employed in delirium, exhausting haemorrhages and suppurations, gangrene, to raise and support the system in debility, asphyxia, the latter stage of acute attacks, and is the best agent in our possession

to counteract the poisonous effects of the bites of venomous reptiles.

It is useful in shock, in threatening syncope in ovariotomy and chloroform, administered by hypodermic injection of brandy.

It is extremely valuable to sustain the heart action during anaesthesia from chloroform and during the enormous purging by elaterium, in which cases its stimulant action should be invoked previous to their employment.

In poisoning from tartar emetic and aconite it sustains the flagging heart and indeed serves many wonderful missions from this very standpoint.

It increases the action of the skin;

it is a local stimulant to the stomach and is useful in dyspepsia, in colic, flatulence, nausea, etc.
In disease it increases the nutrient power of food, thus enabling the patient to hold out when but little food can be appropriated.
In typhoid fever there are some special indications for the use of alcohol which it is well for the medical man to severely study if he desire success with this drug. The ear should always be applied to the chest, and the first sound of the heart observed.
If it is diminished in force and clearness, alcohol should be given.
If it is well, the pulse becomes

more steady and low frequent, the force and clearness of the first sound (auricular ventricular) of the heart is again more decided, it clears off the dry brown coating of the tongue, checks delirium etc.

The best way to administer it in this disease is to keep up a slight stimulation by repeated small doses.

It is never administered in the form of alcohol, but is given in some of the liquors or wines, the usual dose of which is about two to four drams.

The Management of Natural Labor

by

S. Corbin Clark of N.J.

University of Maryland

Class of 1882.

carried to the extent of producing fa-

is needed, but it is impossible to foresee what may be the need of any individual case.

astringent

[illegible]

[illegible]

The physician can generally determine

[illegible]

the cry or moan of the patient,

if he is in the adjoining room

[illegible]

with the surroundings, with the attend-

and especially with his patient.

[illegible] should be as free from anxiety

[illegible], as she is entering up

[illegible] which will require all

[illegible] and energy to carry it to

[illegible] useful termination.

[illegible] an examination. This may

[illegible] with the patient lying on her

[illegible]

are not to disturb her; have her [illegible] the bed, with [illegible]

at pleasure; it would be awkward to oblige the woman who is already [illegible] pain, to move simply to accom- [illegible]

[illegible]

[illegible] To determine the position and [illegible]tation of the c[illegible]

[illegible] learn whether the child is [illegible]

[illegible]

knowledge of the [illegible] and [illegible]

[illegible] [illegible] already

[illegible] the [illegible], but cases [illegible]

[illegible]

The second question has often to be
[illegible] ned - whether labor has actually
[illegible] or not. If you have to deal with
[illegible] parous woman, the occurrence
[illegible]
[illegible] she has entered upon
[illegible]. The symptoms and signs
[illegible] generally determine
[illegible]
[illegible] pection and palpation alone
[illegible]
[illegible] has entered upon the
[illegible] labor.
[illegible]
[illegible] the pulses and soft parts
[illegible] be determined on the [illegible]
[illegible]

[illegible] refers to the viability of [illegible]

[illegible] be certain the child is alive,

[illegible] movements, for many also reasonably conclude the child is alive.

It is always a duty to make [illegible]

[illegible] be looked upon as a privilege.

[illegible] should be conducted in a systematic [illegible]

[illegible]. The labor may have [illegible] so be that on the first [illegible]

[illegible]

[illegible] to [illegible] the [illegible] [illegible] [illegible]
the sutures and fontanelles, upon which [illegible] the [illegible] [illegible].
The [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible]. The [illegible] [illegible] [illegible] subjected to frequent or unnecessary [illegible]. All that is absolutely necessary [illegible] [illegible] condition of [illegible] [illegible].

After the examination [illegible] [illegible] asked if it is all [illegible]. [illegible] be very careful in answering, [illegible] [illegible] wrong has been [illegible] [illegible] [illegible].

[illegible]

that the patient be setting up or

[illegible]

[illegible] allowed to assume any position,

[illegible]

[illegible] is rare she can be induced to

[illegible] but she may be induced to take

[illegible] beef tea or something easily

digested. Labor is the most important

function of woman, during which

[illegible] functions are held in abey-

a [illegible]

[illegible]

[illegible]

[illegible] patient to be in bed, as then

[illegible] of the accoucheur may be

[illegible]

[illegible]

[illegible] endo and divide it, and

[illegible]

[illegible] it by any of the ordinary

[illegible]

[illegible] pause which occurs

[illegible]

In all cases of vertex presentations it is better that the process be completed by the uterus and accessory muscles [illegible] unless there is damage being [illegible] to either the child or its mother, [illegible] should be made on the child after the head is born. The face will in the [illegible] the right thigh of the mother, as [illegible]

the

in the uterine

[illegible]

After delivery of the secundines the hand should still be kept pressing upon the abdomen so as to insure firm uterine contraction for 15 or 20 minutes. The bed should now be cleansed and [illegible] [illegible] as little as possible.

The nurse now is to clean the patient [illegible] tepid or warm water in which may [illegible] put a drop or two of carbolic acid. [illegible] a warm napkin upon the [illegible] and make the [illegible] as comfortable as possible. There are false notions as [illegible] the value of the binder. It can be of no [illegible] there is postpartum hemorrhage, and [illegible]

"The Cases of [illegible]"

J. D. Mighh
Georgia

"The Uses of Salicine"

History tells us that when Serpentaria was first brought to the notice of the profession about the year 16.30 it was thought that the panacea of all ills was found. A great portion of the profession thought it to be a sure cure for any and every disease to which flesh is heir!
What was the cause of all this ill founded imagination?
The only solution that I can give is, that it was an old Indian remedy for snake bites. The white settlers pressed the secret for all their medicines are kept sacredly

Secret) from the savages in some manner. It was tried by them (the settlers) & found to be as represented, or partially so.
It was untiringly Eulogized by the laymen, until the performer became aware of its Existence.
It was tried by them, & found to possess virtues — The news darted like Electricity over both Worlds.
The Enthusiasm was unbounded. "To think, that at last, the greatest Enemy to the hardy, but at American farmer — the Rattlesnake was Conquered!"
After it had soared in all its Majesty & dignity, as a sure Cure

for snake bites, some of the more "philosophical" portion of the profession began to reason thus:- "If it is an antidote for snake bites it ought to be an antidote, or remedy for something else." Well they pressed their imaginations, and the experimental portions of their nature into service, and lo!! It suddenly loomed up as an infallible cure for intermittent fevers. As soon as this was rentillated other "virtues innumerable" follow in quick succession and were given to the world as a priceless legacy

Where stands Serpentaria to day? It has withered gradually under able scrutiny until it ranks stands in the Materia Medica's of the present time as a simple bitter tonic of no especial therapeutical value. The reaction was too great. ~~[illegible]~~

The reader may draw his own conclusions. I draw mine. I think that a good moral may be drawn from such a history viz: "Dont estimate the damage until the storm is over."

Galicin has had, in a smaller way, a [illegible] Expe-

rience. During the Enthusiasm which followed its first introduction, a great deal more virtue was ascribed to it, than was really merited.

It has had its day on fancies high, rose
And spent a night with [illegible]

It again raises its head, & is coming to the light slowly, but surely. We have now a pretty accurate knowledge of its powers, of which we proceed to say something:-

"Chronic Diarrhoea"

Although not so universally known as many other remedies, in the treatment of Chronic

Diarrhoea. Yet those made competent by experience, or in other words those who have used & seen it used extoll its virtues very greatly.

Regarding the of rationale of its operation, I think it admits of a fourfold explanation:

1st: Its tonic effect, as shown by the power it exerst in improving the appetite & digestion, and the great success that attends its use where there is paramount reason for believing that the main trouble lies in a tonicless state of the Enteric Muco muscular membrane

2nd:- Its Astringent properties as shown by such prompt ~~reaction~~ of effect in many instances as to admit of no other explanation.

3rd; As an Antiferment and Antiseptic. as proven by its destructive power upon Bacteria &c. and its preventing the reaction of Ptyaline on Starch &c &c.

4th; As an Antiperiodic. made likely by its known power in this regard, and presuming this fact which I think perfectly fair; that in a proportion of cases not well defined, a Malarial Element, "Subtle but sure"

is a significant factor in prolonging the intestinal drain.* It can be given in the form of pill, powder, or solution. To an adult, preferably the pill in doses of five grs every three or four hours. To children under two years of age 1/2 to 2 grs mixed with sugar, or in sweetened milk or water, every four hours.

In all cases where improvement is not noticed within the first week it is recommended that the remedy be administered more frequently.

The writer, with his youth and inexperience has seen it act

* I am indebted to Dr J. B. Mattison of N.Y. for the above ideas

like a charm in this very troublesome disease.
In the spring of 1880, while reading medicine in the office of Dr Jno. S. Hughson of Sumter South Carolina, an old gentleman (whom I will call Mr B) suffering with this disease, came to the office, stated his case and presented himself for treatment.
His statement, was, as near as I can recollect in these words:- "I am an old man nearly sixty years of age. I have been suffering for several years with diarrhoea. I have tried nearly every physician of prominence

in the state (S.C.) and am
gradually growing worse, instead
of better. I am nothing but a
skeleton. (which he need not
have told us) I wish you to
prescribe for me something that
will either cure or kill me.
I hadn't experienced a pleasant
day in twelve months. A few
of the doctors, I have consulted
have succeeded in giving me
temporary relief but the trouble
would always return and re-
place me in as indisposed
condition of health as before.
I ~~have~~ am, and have been having
on an average six stools daily.

This was a pretty gloomy outlook indeed for Mr N. but he proceeded to question him:— (Dr H:) "What medicines have you been taking"? (Mr B:) "If you wish to ask me to name those I haven't taken I could give you a much briefer answer. I think though that I have about exhausted the Catalogue." (Dr H. laughing): "well if you have exhausted the catalogue of remedies and obtained no relief it is probable that I can do nothing for you, but very likely you haven't done so. Have you tried the Waters of

Lead"? (Mr B): "Yes, persistently but it failed most ignominiously" (Dr H): "Have you tried the Sulphate of Copper?" (Mr B) "Yes but with like results" (Dr H): "Well have you tried Tannic Acid"? (Mr B): "Yes, & I believe it did me more good than anything I have yet taken, but it only checked my bowels for a short time, when the disease would return in as malignant a form as ever." — The Doctor then mentioned in quick succession several other remedies, and receiving like answers to each, he paused a few moments as

though perplexed. He then turned suddenly around as if a happy idea had struck him and said; "Mr B have you ever tried a medicine called Salicin?" Mr B answered that he had taken so many different drugs he had probably forgotten some of them, but the name didn't sound familiar to him and he thought he had not. Dr Hughson prescribed 3 grs of the powder every two hours. and asked the patient to report each day as to the progress of his case. In some thing over a week he reported

Cured. I never saw the patient afterwards, but Dr. H met him upon the streets ~~afterwa~~ about ~~one~~ month afterwards, and he told me that he scarcely knew him so great an improvement had taken place He looked (the Dr. said) "like a new man"

In the "Charleston Medical Journal" of Jan 1875 the same Dr Hughes cited the success attending his use of Salicin in Chronic Diarrhoea and as his cases are reported in such a felicitous style I cant resist the temptation to

give at least two of these:

Case 1st:

"On the 4th of August I was called upon and informed that a lady from a neighboring town some thirty miles distant, would, if possible be to town, arrive on the evening train of the 6th inst for the purpose of placing herself under my care, and also hoping for benefit by a change of air and scene: and I was requested to see her as early as possible after her arrival. Accordingly on the evening of the 6th I called at the residence

of Mr— and found Mrs—
an object, pitiable indeed to
look upon: From a beautiful
fascinating, gay, young woman
she had become changed to
almost a skeleton: with wan
looks her eyes encircled by dark
rings, that gave an contrast
to her otherwise pale features
a truly ghastly appearance.

Reclining upon a Sofa
with the soft light falling
upon her attenuated form, she
looked as though grim death
had indeed— as she declared—
claimed her for his victim.
She told me that for days

months past, she has been
suffering with Chronic Sore
throat of a most obstinate
nature. Her medical attend-
ant, an accomplished physi-
cian during the course of his
treatment used various remedies
without obtaining any per-
manent benefit. Her bowels
acts from twelve to eighteen times
during the twenty four hours
very watery and occasionally
passes a little blood, the tongue
clean, no appetite, no tenderness
over the bowels and but little
pain at any time.
Diagnosing this as a case not

so much of a inflammatory character, as a want of tone in the muscles and lining membranes of the bowels, I prescribed Salicin in 7½ gr pills two to be taken every four hours, with mild Sulphate of Zinc injections, morning and evening. Being desponding I endeavored to cheer her by anticipation of a happy return to health and the caresses of her lord, and little ones.

On the fourth day there was decided improvement, there having been but two or three Evacuations during the preced

ing day and night, and then of a more natural Character.

At the Expiration of a week without the aid of any other Medicine (except a few doses of the Comp Fluid Extract to relieve flatulence) She was able to waere about the house, her bowels acting but once during the day, and that action normal in Color and Consistency. Ordered the pills to be taken now but four times per day. Health and strength returning. At the Expiration of two weeks from the time I paid my first visit I was able

to pronounce the case cured."

In another article upon the same subject Jan 1877 he says:- "Mr. A. D. R. was attacked with diarhoea June 1st 1875. He placed himself under the care of a competent Physician here, who pursued the line of treatment usual treatment for such cases; changing from one thing to another, without any benefit resulting, until the 16th August when Mr R. decided to take a trip north in hopes that a change of air and scene would be of advantage in

aiding to restore his much
brown locks. He remained
in Lowell and Worcester
Mass under medical treat-
ment for about one and a
half months when he conclu-
ded to come home to die.
I saw him Oct 5th, the
morning after his arrival and
his condition was certainly
unpromising, his family think-
ing there was no prospect for
recovery.
He was greatly debilitated,
barely able to move from one
room to another, being com-
pelled by weakness to occupy a

recumbent position the greater part of the time; was extremely emaciated, feet and legs oedematous very little appetite, and having from twelve to twenty evacuations daily. Some of them small, with discharge of mucus mixed with blood.

No considerable amount of pain, and but slight tenderness upon pressure over the abdominal region, Considering this a case, rather of want of tone in the muscular and mucous portion of the bowels, than of decided inflammation I directed him to take in pills, 5 grs of

Salicin every fourth hour
and small Sulph Quinine
injections morning and even-
ing with such light diet
as would agree with him.
Improvement on the 3rd day.
And on the 23rd day Oct
— just eighteen days from
the commencement of treatment
dismissed the case cured."
In a note appended the Dr
adds: "This gentleman is
now in fine health, with good
prospects of a long life."
Dr J.B. Matthews of Bay
in a speech before the Medical
Society of the County of Kings Nay

in 1877. reported many miraculous cures by the use of salicin
I shall quote two of the shortest:—

Case I.

August 20 1870. Came under my care F. B. Act 2 years. Unwell for several days from profuse diarhoea. Prescribed what I thought a suitable astringent without success. Prescription changed with no better effect and without details for more than two months, during which were Opiates, Astringents, and Stimulants. I failed in accomplishing my object. One remedy

would control for a time; and then a return as profuse as ever having from five (5) to twenty (20) evacuations in the twenty four (24) hours. The parents were discouraged. My faith in certain medicines began to wear, and a prospective change in professional ~~Medical~~ attendance loomed up before me, when, fortunately for all concerned, I prescribed Salicin in 1/2 gr doses every four hours. The effect was all that could be desired; In ninety six (96) hours there was decided improvement: In ten (10) days the patient was dismissed Cured

Case 2nd:

March 30th 1872. "M. R" aged
twenty (20) months. Diarhoea
for weeks. During which had
employed various remedies, with
out effect. At last ordered
Salicin 1/2 gr every four (4) hrs.
After patient has taken 10 gr.
decided improvement was noticed
and by the fourth use of a
equal quantity the Case was
"discharged Cured."

Royal is represented as recommending Salicin in this disease.

I might add testimonie upon testimonials to the fore already given, and would

so, were I not afraid of making my articles too lengthy and wearisome, and as such would probably be the case, I will proceed to say something of its value in:

"Acute Rheumatism"

There is no known remedy that stands higer in the treatment of "Acute Rheumatism" than Salicin. Nothing rivals it in rapidity of action, and very few, if any, are even equal to it in point of general excellence.

Since large doses are depressing to the heart, and

doses, to prevent the unpleasant possibility it is necessary to prescribe it in large doses. Great care should be taken to combine the administration should no longer than the height of temperature warrants.

A tonic is recommended immediately after the reduction of heat effects. While smaller doses of the remedy are continued.

In his recent "Practice of Medicine" (page 820) Prof Roberts Bartholow says:- "The success attending Salicin in the treatment of Acute Rheumatism, as upon the whole

remarkable." We must admit however that he qualifies this this handsome eulogy almost in the same breath by speaking of its: "Depressing effects upon the heart", and "Tendency to relapses &c" — I think it would take a very analytical mind to decide exactly what he thinks. In justice both to profile and the reader, I will quote what he has to say "literatim et punctuatim:"

"At present no remedy is so universally employed in the treatment of Acute Rheumatism as Salicin in its various forms

The success that attends its use is on the whole remarkable. Now that the enthusiasm which first followed its use is some what subsided, a fair estimate of its powers can be made.

As it causes very great depression of the heart, and excites irritation of the stomach its utility is much more impaired than was at first supposed. Furthermore, although its action is very prompt, relieving the principle symptoms in a few days, the tendency to relapses is very great." On the same subject on the same page he again says: "It is good practice according

to the authors experience, to give the "Muriatic Quest Iron" as soon as the reduction of heat is effected, smaller doses of Salicin being continued." And still again he says: "I have found Salicin more applicable to the treatment of able bodied subjects of the inherited tendency or Rheumatic Diathesis, rather than the plate, delicate young subjects, or the "florid but flabby drinkers of Malt liquors'"

I might extend such testimonials on indefinitely, but as we have taken up such a goodly space, in presenting its powers

in the treatment of diarrhoea, I will not continue it further but will proceed without delay to say something of its usefulness in:

"Intermittents"

There are none, or very few who deny the very great superiority of Quinine over Salicine as an antiperiodic. And were there no such thing as personal idiosyncrasy, and Quinine was always in reach, there would be no necessity for the existence or application of other remedies. But as such is not the case the employment of other remedies

becomes necessary, and of course it is the duty of the physician to give his patient the advantage of the best substitute. We are lead to believe, by the some very able men, to believe that this is found in Salicin.

Dr. Geo. B Wood, in his "Ther et Phar" (3rd edition page 282) says that when quinine cannot be obtained, or your patients stomach is not in a condition to tolerate it. Salicin is among the best substitutes of vegetable origin

The same Dr. Wood, in a different work* says in substance

* Wood & Bache Mis II Page 843

"That Salicin has the power of arresting intermittents I do not doubt, but that it is equally as efficacious as quinine &c." He then quotes Magendie as saying that he had seen fevers cut short in one day by three (3) doses of 6 grs each of Salicin.

The usual dose of Salicin as an Antiperiodic is from 2 to 8 grs. repeated so as to amount to from twenty to forty grains during the intermission.

"Foul and Indolent Ulcers"

Salicin is considered to be very useful, as a topical application to "foul and indolent" ulcers.

Combines a healing and disinfectant power. Its virtues in this regard are attested to by many able surgeons. The proper mode of applying it is to sprinkle the surface of the wound with the powder.

"Anthelmintic"

Salicin is said to possess anthelmintic powers, but I have as yet found no standard writer who would state to what limit its virtues extended. Dr Geo B Wood in his "Ther et Phar" (3rd edition) says that he has heard of its power as an anthelmintic, but fails to state whether he tested its [illegible]

follows. I presume however
when the statements well
founded, the public would have
been made aware of it in
this. As an Anthelmintic
it is given in the infusion
or decoction. The dose is one
or two fluid [illegible].

J. D. Wright.
Georgia

A Treatise
on
Pneumonia
by
Cecilius Calvert Stewart
Class 1882

The specific gravity is high. The presence of a large amount of chloride of sodium in the sputa, or the absence of it, in the urine, is not only found in pneumonia, but in other diseases also and is therefore of little value.

Signs: The signs, in the first stage of the disease, are few and not well marked, slight dulness on percussion with crepitant rales. The rales are due to the sepa-

side, as in a case, last year, in the Maryland Infirmary. Erysipelas is also one of the causes. Pneumonia is said to be more common, in temperate climates, than in any other. It is more prevalent in the fall and winter than in any other season. In a case which I saw, in October 1881, it was evidently caused by over exertion, and by exposure to the damp night air.

Morbid Anatomy: Lobar,

exuded matter. (Bristow) The air, which is at first, diminished, is expelled from the lung by degrees. The lung tissue grows solid and heavy; and the cavities being filled, with excess of exuded matter, air can no longer enter them. The consolidated lung tissue has now the appearance of the liver. This is the stage of red hepatization, or second stage. The lung, on section, looks dry and granular, has a marbled appearance,

and is somewhat pale.
In some cases however,
it is of a deep hue.
In the third stage, or
stage of gray hepatization,
the lung tissues are of
nearly a uniform grayish,
yellowish, or greenish tinge.
This change of color is due
to the compression of the
capillaries, by the exudate,
and, partly, to the destruc-
tion of the red corpus-
cles, and disappearance,
to a greater or less
extent, of their coloring
matter, while the white

of all respiratory and vice
sounds on auscultation.
In pneumonia the dulness
does not change with
the position of the patient.
The pain is dull and
not limited to a small
space, as in pleurisy.
As pneumonia is so often
accompanied by localized
pleurisy, we may have
friction sounds. Lobular
pneumonia and bronchi-
tis may also be mista-
ken for lobar pneumonia;
the two former are bi-
lateral, and not limited

pneumonia.

Treatment. The treatment of pneumonia has changed completely. Formerly every patient was bled and given tartar emetic. The result of this treatment was a large mortality, one patient out of every two or three. This has given place to the so-called expectant treatment. A plethoric vigorous subject may be bled on the first, second, or third, day with good result. In the first stage

it is a gentle diuri-
stimulant; and should,
therefore, be given during
the whole course of the
disease. The Aconite should
never be given after the
first stage, as there is
danger of the hearts act-
ion failing in the sec-
ond stage. If the bowels
are constipated, adminis-
ter a gentle purgative.
A mustard plaster should
be placed over the af-
fected lung. In the sec-
ond stage, the patient is
to be well nourished, milk

course of the disease.
During the crisis, great
care is taken not to
arrest sweating, the room
should be kept well
ventilated, and at a tem-
perature of about sixty-five.
Juergensen places great
reliance on the use of
the cold bath, or, in
the absence of this, of
exposing the patient, naked
to cold air, as an anti-
pyretic in pneumonia.
Although, he says, there
is no danger in this
mode of treatment; it

Thesis

Subject: Hypodermic Medication.

Respectfully submitted to
the Faculty of Physic
University of Maryland
by

W. B. Clark
Sallis
Mississippi.

Hypodermic Medication

The secret of success in the practice of medicine consists in discriminating as to how, when, and by what mode we shall apply remedies in the treatment of disease. In none is this more essential than by the hypodermic method of medication. Being especially useful in cases of emergency the mind must be active [illegible] to [illegible] our [illegible] perception by noting every symptom, and yet, our best judgment must to the front for then it is we prove ourselves as to that [illegible] quality [illegible] [illegible] frequently become great by attending [illegible] [illegible] to many to be

of little value and of minor importance but, as their success is gained by effecting cures is it not reasonable to suppose and does it statistics bear us out in stating that the prognosis is made favorable by attention to such? It certainly does, for hypodermic medication seems simpler and yet when we fathom the statistics which is recorded in its favor by its merits we can but call attention to some of them. The attention of the profession was first called to this mode of medication by Dr Alexander Wood, of Edinburgh and, the plan of using it as a remedial agent in 1855. He advised and employed it by

injecting the medicinal solution in the locality of the pain; or where pain upon pressure could be awakened. His ideas not answering the modern plan or according with they have been changed. He bestow upon Dr Wood the honor due him, in making this great achievement, for it has been the medium of saving thousands of lives which speaks of Dr Wood's art, better than theory. History will always have chronicled upon her page that, which speaks in praise of this genius, which is justly run. This is an age of advancement and the deepest thoughts [illegible] execution however duly weighed generally admit of improvement.

Dr Charles Hunter conceived the idea of the remedial agents action, not, being directly upon the neuralgic nerve as Dr Brown supposed; but was absorbed by the circulation and the anodyne effect was carried in the blood to the point of lesion or affection better than injecting the fluid at some distance from, instead of at, the seat of pain. The above is of course not suited in each & every case but is the rule. He administer drugs by this mode of course in solution and hence, a syringe is the instrument employed. It consists of a barrel either of a silver tube or glass and rod a canula or needle of steel or silver which

is sharp pointed with an opening through which the liquid is injected; the rod is either graduated or the barrel and acts as a piston; the barrel is about the size of a [illegible] catheter with a capacity not exceeding a drachm. The syringe should be compared with a standard minim measure before using to see that it is graduated correctly. Different size needles should be secured with each syringe whether for means of diagnosis or in general practice, with wires for keeping the tubes open and clean. Should the needles become rusty or [illegible] alcohol is the best agent to cleanse them with. The operation is as follows. Draw up the [illegible]

we wish to inject the solution with index
finger and thumb of left hand; after
we have drawn sufficient fluid in the
syringe and raised the needle and forced
drop or two out, with the air which should
never be allowed to remain in the syringe;
with the right hand we hold the syringe

pass the needle either longitudinally
or vertically with the [illegible], into, or
subcutaneous connective tissue. He must
avoid puncturing arteries, veins, nerves,
and bony prominences. Then we inject the
contents; withdraw the needle and then use
friction with the palm of the hand to promote
ready absorption. The solution should
contain medicine of a non-irritating
character to the tissues capable of ready

absorption free from all foreign matter and neutral in reaction of [illegible], either slightly alkaline or acid. The [illegible] should be soluble in the menstrum employed, which as a rule, is rain water, water from melted ice, or as some prefer, hot water. Alcoholic preparations and ammoniacal solutions are often employed. Due caution should be used in the employment of the first, subcutaneous injection on account of the idiocyncracy of some persons for certain drugs, and a minimum quantity of the fluid used & watch the results. He will now proceed to compare the hypodermic method to the enepidermic iatraleptic and endermic varieties

: Their employment which dates from
used for time immemorial, almost.
It has many advantages over the
customary way of giving medicine
viz: by the gastro intestinal mucus
membrane which I will point out
its advantages when I treat of its uses,
in the general practice of medicine
gynecology and surgery where
used as a therapeutic or topical
agent in alleviating the trouble.
The simplest method of medication
is to place the medicament in contact
with the epidermis using any
friction. The epidermis being rather
strong and the delicate matter of the
skin impedes, the process of entrance

[illegible] whether we use alcoholic or aqueous solutions, but, by the hypodermic modus operandi the solution when injected subcutaneously enters the blood almost immediately, and is carried through the circulation with speedy effect and gaining that purpose which is altogether satisfactory. By the iratraleptic variety friction is employed and ointments are usually made use of as mercurial oint but, we can gain much more prompt action and is much neater by the hypodermic method, than, the iratraleptic. Now, we come to the endermic mode which is to blister the part to remove the epidermis, so that, the medicament may be [illegible] or sprinkled upon the derma

of course after being in a finely pulverized state as the sulphates of morphia, quinia, or atropia (of course a small quantity of latter being used). We prefer the hypodermic method to the above, for it isn't so painful, (1) not so irritating, (2) requires much less time, (3) a smaller amount of medicine, (4) less apt to be attended with after trouble (as ulceration) and above all (5) it is more [illegible] in its results. In cases of nausea some claim that the counter-irritation allays it but we can usually gain all this controll by the fashionable [illegible] operation [illegible]. Causes of abcesses. For the most part it is due to the needle becoming blunt by oxydation, neglect of keeping it clean, or insolubility of the

medicine in the menstrum employed, which is irritating to the tissues and set up local inflamation resulting in abscesses.

Its use to the general practitioner. The customary way of administering remedies is by the mouth, which must for the most part, pass through the portal vein into the liver before being taken up by the general circulation; while, by the hypodermic injection of solutions they enter the circulation almost instantly and unchanged. He can but expect prompt action, sure results, and more permanent effects than when given by the mouth as has been conceded by our best authorities. Although it has this power, it has not nor will it ever superceed, the usual mode of giving medicines

but it holds a high rank and justly too, which cannot be dispensed with. The dose compared to that given by the mouth is about 3 but some prefer 2 the quantity. In the treatment of long continued fevers when the thermometer registers from 102° to 104° we are advised by our able teacher Dr St T Howard to use the hypodermic injection of Muriate of quinia and urea, and with excellent results as I have seen in the hospital upon patients upon several occasions. It is much better than giving febrifuges by the mouth. Professor Howard claims to be the first physician to use it in Balto. In the treatment of syphilis while it is not recommended in all cases yet when patients exhibit deep ulceration of the fauces

scattered more or less over the integument you desire to check the rapid strides of the disease and bring the patient under the influence of mercury as speedily as possible without causing ptyalism. By the internal administration of iodide of potassium in large doses by ascending the scale gradually and the hypodermic injection of bichloride of mercury as follows we gain much. ℞ Hydrarg Chloridi Corr ʒß

Glycerinae Mixl

Aqua Distill ℥iv ss

M. sig inject mix

ter die. After using the first day you will not employ it in three or four days to test the patients susceptibility to the drug for one or two days injections of mercury ter die may cause salivation which we do not desire as the ancient

physicians did. The loins and infrascapular region is better suited for the injection than the arm on account of the sensibility of the integument, which tends in such cases to the formation of abcesses. Calomel was formerly resorted to but is now discarded being almost entirely superceded by corrosive sublimate but other preparations are occasionally used. Stauff of Strasburg in 1871 first called the attention of the profession to the albuminate of mercury. He held that it did not produce ptyalism did not cause the formation of abcesses and that "all syphylitic symptoms disappeared after ten to twenty injections." It was tried but was soon laid aside for it did not keep well and didn't seem to be a "true definite chemical compound." Ragazzoni used and

recommended the following formula viz:

℞ Hydrarg Biniodidi Gr ss
Potass Iodidi ℥ S
Aqua Distill ℥ss
M.

When the hypodermic mode of medication is employed as above in the treatment of syphylis the syringe should only be used with those who have the disease for re might inoculate patients whose escutcheon was clear and add misery pain and suffering where peace and happiness reigned supreme prior to that date. In Sciatica we have a valuable agent as in other nervous affections where pain is often the result of depressed nervous force or probably exalted nervous force which is to use hypodermic injections

of Magendie's solution Mi 1 to 4 pro re nata which contains 6 to 8 gr morphia. We thrust the needle directly downwards into the subcutaneous areolar or cellular tissue. Professor Chew prefers it to turpentine but the latter might be given internally while the injection is made in the neighborhood of the pain. In the passage of a renal calculus the suffering is intense, which can be alleviated by combining the sulphates of morphia and atropia, which acts better than when we resort to the administration of either alone. We gain much time by this method, than, by the gastro-intestinal mucus membrane which is especially advisable. A good formula is the following ℞ Sulph atropia Gr i

Magendie's Sol 3 i

Fig inject mi v which contains 6 Gr morphia and 1/6 Gr Atropia. In Gall Stones after the diagnosis has been confirmed by the passage of one or more in the feces the hypodermic injection of Morphia tends to relax the spasms, thereby aiding in their expulsion. The same virtue has been alleged in favor of belladonna but stastastics assures us that opium is the most reliable agent at our command. I think by combining sulphates Morphia & Atropia we can gain the desired end and probably much more rapidly. In colic the muscular tunic of the intestine is the seat of the supposed spasm complicated with constipation usually and attended with pain of an

excruciating character. Firm pressure
is made over the umbilicus we cause
cessation of the pain. Such is the train of
symptoms in headcalic which can best
be relieved by hypodermic injections
of morphia solution and the internal
use of Sulphate Magnesia, which relieves
the costiveness, uniting with the lead to
form an insoluble sulphide of lead and
followed by iodide of potassium as
an eliminative agent. In neuralgia's
whether Tri facial, cervical or brachial, we
gain much by the hypodermic injection
of morphia in the neighborhood of the
pain but should begin with small quantity
watching the effect and repeat if necessary
In bright disease we cannot employ

a better agent than hypodermic injection of Mu Pilocarpin Gr 1/8 subcutaneously. The kidneys being unable to eliminate what it is their function to perform, the pilocarpin acts upon the blood by promoting free diaphoresis by acting upon the vaso motor nerves by partially paralyzing them which causes a dilatation of the vessels and an exudation of the watery elements of the blood. In the forming stage of pneumonia viz that of engorgment the lungs become very vascular, their elasticity is diminished & weigh is heavier which is the pathology until the air-vesicles become filled. Inspection, palpation, percussion, and auscultation, being practiced we diagnose the state of affairs

We wish to gain controll over the advance of the malady and by the hypodermic injection of Majendie solution in Mi & quantity repeated every few hours with, the internal administration of Sulph Quinia in Gr & doses, we can abort many cases. It is probably best in such cases to give the injection in the infrascapula region. I failed to mention that the prune juice colored expectoration is a pathognomonic sign of [illegible] 2nd. Hypodermic medication is not restricted only to the stage of engorgment though usually so. But we should exercise due caution in discriminating in this disease when it is contraindicated as it is when there is insufficient aeration of the blood and when dyspnoea is present. In plurisy

the lancinating pain is usually unilateral which is increased upon inspiration, and, especially so upon forced inspiration. The stitch is the agrivating feature or symptom to the patient and the one the physician turns his attention to when present. It can be mitigated promptly, by the employment of hypodermic medication. In acute rheumatism we can accomplish much by hypodermic medication in the neighborhood of affected joint. Also in spasmodic asthma we have a safe sure and rapid mode of assuaging the trouble by combining morphia and atropia by hypodermic method. In intermittent fevers the muriate pilocarpin

is employed to promote diaphoresis which is of great value. Sulphate Quinia has also proved efficacious at times for its anti-pyretic powers but occasionally causes abscesses.

Hypodermic medication is of vast benefit to the obstritician. In common labor it is not resorted to, but, when the labor is protracted and weary nature is almost worn out by the loss of sleep, the hypodermic injection of an anodyne is of immense value. In that troublesome affection false pains we can check them splendidly by hypodermic medication or in cases of after pains of labor it is equally serviceable. In order to facilitate uterine

contraction whether to expell the placenta or to check post partum hemorrhage we have a method by which we can rely upon, as one of the best, hypodermic injections of ergotine and merits all the praise given it. It contracts the relaxed wall of the uterus whether the vital powers are exhausted by a prolonged labor or where the labor was rapid and the placenta was extruded almost instantaneously with the child. In such instances its value is apparent. Dr Bartholow recommends it as follows "℞ Ergotinae (aq Ex) ʒi
Glycerinae ℥j
Aqua Distill ℥vij
M. sig Inject mi vii

We might sacrifice the life of the
mother awaiting the effect of Ergot given
by the mouth for its action is delayed
as absorption is more or less prolonged
but by hypodermic injection of the drug
in the hypogastric region or infrascapular
region we can induce the pressure for
which we aimed. In uraemic convulsions
or when such is likely to ensue as the
symptoms indicate we have no better
agent suited than morphia not only as
a prophylactic but as a remedial agent
nor as good mode of administering it,
than by the hypodermic syringe for its
uniform effect, promptness in its action, &
is especially applicable when patient
cannot swallow. The action of the

morphia is upon the nerve centers, through the blood, making them more capable of resisting the foreign product. Checks the spasms, and not only increases the water elements but also eliminates the urea which is the materies morbi from the blood by the Kidneys. To the Gynecologist it is often to be preferred to surgical operations as I will endeavor to point out. In cases of uterine fibroids if we inject ergotine subcutaneously it causes the growth to atrophy by producing uterine contractions cutting off their nutrition fatty degeneration ensues and after continued use causes their absorption. The attention of the profession was first

drawn to this modus operandi by Prof. Hildebrandt of Konigsberg about 1871 in the treatment of these neoplasms. It will at least check their growth, but stastistics shows better results by this method, than, surgical procedures as ecrasement, enucleation or excission as a curative agent by alleviating the metrorrhagia and [illegible] which attend them and absorption and without subjecting our patient to the risk of hemorrhages, exhaustion, and probably septacemia. All of which are to be dreaded for they materially interfere with the nutrition of the patient producing anaemia and nervous derangement.
It is recommended to be used in the

hypogastric region, of about three grains of squibbs ergotine from "three to seven times per week." Ergot seems to have a peculiar affinity for the uterus, acting by constricting its fibres and upon the vessels of the uterus and ergot has a more decided action upon the highly vascular, than upon the normal uterus, which is best influenced by hypodermic medication. Dr. Bartholow estimes it of great value in "chronic metritis and subinvolution of the uterus which has better results from the hypodermic method. To the Surgeon it is of inestimable service for without it success would not follow many of his operations. Good authorities suggest the hypodermic

injection of morphia, prior, to the inhalation of anaesthetics whether ether or chloroform to lessen the danger of shock, to give tone to the hearts action to relax the muscles to diminish pain and, obviates nausea but is facilitated by combining atropia with the morphia. When the patient is undergoing an operation the brain is less active under such conditions, and the respiratory centers in the medulla oblongatta and the circulation is seemingly only active. After the loss of a limb and the trickling away of more or less blood, which ensues the heart pulsates very slowly, due to the partial inhibitory action of the pneumogastric nerve and probably the partial paralysis

of the three cardiac ganglia which affect the automatic action (of the auricle sinus venosus, auricular ventricular boundary) and death seems eminent, then it is, we wish speedy action of the drug to sustain the weakened condition. Hypodermic injection of brandy or ammonia is of great advantage for they exalt nervous force, producing strong and rithmical action of the heart beats, causing tranquil breathing when but a few moments previous to the injection life seemed to be upon a thread. In such cases the patient cannot swallow and if he could the medicament would often be too slow in its effects to do good. As a means of diagnosis

the syringe is often of great value as in cases of hydrothorax or emphysema in the pleural cavity by passing in the needle and drawing off some of the contents. It is preferable to the trocar or aspirator needle by being smaller & we run no risk in admitting air as by the trocar into the cavity. We raise the skin usually between sixth and seventh ribs on the posterior thoracic wall, pass the needle in just above the rib and draw off some of the contents; then place your finger over the puncture and use friction & put some collodion over it. We can diagnose the Dropsy fluid as well. In cases of ovarian cysts or ascites we may be in doubt as to the diagnosis

but by drawing off some of the fluid and examining its gross appearance as well as its microscopic character, we have a valuable and safe mode of testing it. much more reliable than the scalpel, as to the result, and is quite an improvement to modern surgery. In cases of abcesses of the liver or hydatid cyst we may be in doubt but we can resort to the same procedure as above. In the treatment of such cases after the fluid has been withdrawn hydriodic medication is not infrequently made use of. In the treatment of poisons it is noted for its rapid influence upon the system which is greatly desired.

In lead poisoning the distinguishing feature is wrist drop paralysis of the group of extensor muscles and after the inflamatory stage has passed we may employ the hypodermic injection of 1/50 gr of nitrate Strychnia in the muscles. In poisoning by tartar emetic the heart is greatly debilitated which necessitates the hypodermic injection of a stimulant to support the vital powers. When an emetic action is desired and patient cannot swallow and we wish to produce emesis we can employ the hypodermic injection of apomorphia which is of vast importance. In the treatment of strychnia poisoning which affects the cord and not the brain

or not very quickly to obviate this state of affairs we can employ the hypodermic injection of hydrate chloral which influences a marked action upon the spinal cord tending to override the fury of the strychnia and is a good sedative and hypnotic. I/2 usually employ the inhalation of chloroform also and the two make success certain where before looked gloomy in a large number of cases. While the hypodermic method of medication is not very often made use of, yet it yields an exalted rank by every practitioner which on its merits is likely to retain and be handed for ages to come.

1882.

The cortex makes up about three fourths of the entire gland.

The medullary portion consists of redish colored masses, the pyramids of Malpighi; they vary in number from eight to twenty. The bases of the pyramids are directed towards the circumference, and the apices towards the pelvis of the kidney. The pyramids contain smooth rounded masses, called the papillae of the kidney. These pyramids are composed of straight or converging tubes, which commence at the apices, by a small orifice and

of which may be pressed drops of urine. The medullary substance is denser in structure, darker in color, than the cortex, and has a striated appearance.

The malpighian bodies are round sacks or bladders, called Bowman's capsules. These are made up of cells. Connected with each of these bodies, is a convoluted tube, and two blood vessels, an afferent and efferent vessel. The malpighian corpuscles and also the tubes are lined by stricted epithelium. This epithelium in the convoluted tubes, is

very thick, nearly closing the caliber of the tube.

Blood supply. The kidney is a very vascular organ. Each kidney has a large artery going to it, directly from the aorta. The right artery being a little longer than the left, owing to the position of the aorta. These arteries enter the kidney at the hilum, and divide and subdivide until they get to the part between the cortical and medullary portions, so to speak. Here some of these vessels pass up into cortex, and others.

vessel. The artery on entering the capsule divides into quite a number of capillaries, but these capillaries do not break up or anastomose, as capillaries generally do. They are all twisted into a knot, and form what are known as the glomeruli of the kidney. These twisted capillaries prevent the blood from passing too rapidly through the kidney, and allow the gland sufficient time to perform its function. The kidney, also, has some small arteries, which enter the directly into the cortex.

The kidney and all its parts are bound together by connective tissue, which is of great moment in certain diseases.

The function of the kidney

The function of these glands is not well understood; but there have been many interesting discoveries made, in regard the workings of these organs. They, like all other glands, have the power of secreting water, and that in large amounts. It also secretes some solid matters; as, the chlorides, carbonates, sulphates, and phosphates. It

also secretes urea, which is the most important part of the work of the kidney.

Now, we know that the fluid which passes through the kidney contains albumen, and we know that the albumen does not pass out with the urine. The question is, to know how this albumen is prevented from being passed off with the urine. We are sure that the capillaries in the kidney do not differ from capillaries in other parts of the organism, and all other capillaries, even

ever found, allow albumen to sweat through their coats. Hence these must do the same. And there must be something to prevent the sweating through of the albumen, and that something seems to be a layer of epithelium.

Bowman's theory is, that the water, salts, urea, and albumen are all sweated through the coats of the capillaries together, and pass into the convoluted tubes, where the albumen then is taken up by the thick epithelium of those tubes,

and returned to the blood. This thoery we think, cannot be true though it seems good.

The thoery that seems to be more nearly correct is, that the glomeruli are lined or covered by a striated epithelium, and this epithelium keeps the albumen from passing out of the capillaries. I will say, just here, that more or less albumen may be seen in the urine of an individual, at times, without there being any organic disease of the gland. This is an important fact

We will mention some of the things that either increase or decrease the amount of secretion from the kidneys and it will be seen that they all favor the last theory, but very few are in accord with Bowman's theory.

We know that arterial pressure will cause an increase of urine. When a person is dying the kidneys stop secreting, owing to diminished arterial pressure. A person while in a state of syncope will secrete no urine, because of increased blood pressure.

If the spinal cord be cut, in an animal, below the medulla oblongata, the kidneys will not secrete, because the power of the vaso motor nerves are distroyed, and the arteries dilate, lessening the blood pressure. Some nervous diseases cause increase flow from the kidneys. If we pour water into the veins, the kidneys will secrete a much greater amount of fluid, though this does not increase blood pressure. If the renal nerves be severed the secretion will stop. If

the renal artery be ligated for one or two minutes, the kidney will not secrete, and though the artery be loosed at this time the gland will not secrete for an hour or two. Showing that the function of the epithelium of the glomeruli has for a time been destroyed. This proves conclusively that the epithelium of glomeruli has much to do in the kidney work.

There is still another mystery and that is to know how and where the urea is secreted. Some writers think that

it is secreted by the epithelium of the glomeruli, with the water and salts of the urine. But the latest and best men think, that it is secreted by the thick epithelium of the convoluted tubes. These tubes have a blood supply of their own. And it is from this the urea is taken. The only objectionable feature about this is the very small quantity of blood, from which to be obtain so much urea.

In short, the water and salts are secreted by the

epithelium of the glomeruli; and the urea by the epithelium of the convoluted tubes. The urea is formed mostly in the liver, a little in the kidney and, perhaps, a little in the blood.

The amount of urea in the urine or blood depends largely upon the kind of food consumed. Animal diet makes more urea, than vegetable diet.

Healthy urine is of a reddish color, bitter and saltish, to the taste, and a little acid. These properties

may be changed more or less by disease, medicine or food. If the urine is allowed to stand, it will become more acid, but if left longer it will become alkaline. Owing to the decomposition of uric acid.

The urine always contains a small quantity of animal matter. The amount of which may become very great in some diseases.

With the great light that has been thrown upon this wonderful fluid of late, every medical man

should be able to treat its different diseases with more or less gain, both to himself and patient.

The kidney like all other glands, as we believe, is under nerve influence. The center of its nerve supply is in the lumbar region. There are also sympathetic nerves which influence the secretion of this organ.

The kidney may be the site of many diseases. The most important of which are: Nephritis acute and cronic, Interstitial nephritis,

Pyelitis; Diabetes Mellitus; Diabetes Insipidus; &c.

A short discussion of the above named diseases would be very interesting for me, if time would allow me to indulge. Owing to the want of time and space, I will be compelled to wait a more convenient season for the discussion of the very interesting subject of Kidney diseases.

John S. Green

Harford, Co., Md.,
Jan. 26, 1882.

A Thesis on
"Scarlatina."

Prepared by
Herbert C. Campbell

Feb. 14, 1881.

Scarlatina

This disease is so named from the color of the eruption that is characteristic of it. It is very remarkable for the different symptoms it presents in different cases. It may, in some, be so mild as scarcely to constitute disease; while in others be malignant, and rapidly fatal. The two principal forms in which it manifests itself, are upon the skin and throat. Both of these symptoms may appear in the same case; but in the majority, only one of them.

Although this disease is very different as it may affect the skin or throat, there is no doubt as to both forms being contracted from the same poison: as the latter may be conveyed from one who only has the cutaneous eruption, while the former, in like manner, may be received from one who has the trouble principally in the throat. Either has always more or less tendency to run in to the other:

For the sake of convenience

it has been divided into three varieties – namely; Scarlatina simplex, in which the skin is principally affected; Scarlatina anginosa, in which the skin and throat are both attacked, and Scarlatina maligna, in which the whole strength of the disease is exerted upon the throat. Scarlatina simplex, or the mildest form, usually commences with a slight fever and headache. The eruption appears most commonly about the second

day; usually first on the face and chest in the form of red, elevated spots, which gradually cover the whole body, in twenty four hours from the time they first show themselves.

These spots will generally disappear under pressure, but will return as it is removed. The appearance of the tongue is also a marked characteristic of this disease. At first being coated with a thick fur, which, as it clears off, leaves it of a bright red, strawberry color.

The efflorescence will mostly terminate by separation of the skin, which begins mostly on the eighth or tenth day, though sometimes much later; and in more severe cases the skin may come away several times. The pulse is usually quicker than the other symptoms would indicate it to be. The throat becomes slightly inflamed; also the mucous membrane of the mouth, which mostly terminates by resolution; the fever and rash disappear about the

same time; and in most cases, the patient is convalescent in ten or twelve days. Scarlatina anginosa is introduced with symptoms much more severe than those we have just been considering; there is severe headache, with some delirium and great loss of strength; generally on the second day, the neck becomes stiff, with soreness of the throat; and the tonsils and adjacent parts become red and swollen, and coated with an exudation. The rash does not

appear as early in this, as in the former variety, and has a tendency to disappear sooner and return at indefinite periods. There is great constitutional disturbance which somewhat resembles a typhoid nature.
The malignant variety differs very little, in the beginning, from the preceding one. The advance of this form being very rapid, in the course of a few hours it takes on a malignant or typhoid condition. There is often considerable

cerebral disturbance, in connection with the very severe affection of the throat, which shows itself by restlessness and delirium, which is mostly of the low muttering kind. The tongue is dry and brown, and the breath very offensive. The rash is very uncertain as to the time of its appearance, and duration. In many cases this form terminates fatally in from twenty four to forty-eight hours; and sometimes sooner. Persons of a delicate constitution being certain victims.

Scarlatina is liable to be followed by serious trouble, in the development of disease that may be latent in the system; among which are scrofula and tubercular affections in their many forms. But the most frequent and serious trouble resulting from this disease, is an affection of the kidneys, which is mostly accompanied by general anasarca-(a state of albumen in the urine). This condition is more liable to be present after a mild, than after a severe attack;

which, in the former, is probably due to a want of proper precaution as to exposure. This atrophical state is thought to be induced by the diseased condition of the skin, by which it is unable to throw off matter, that should be gotten rid of in that way; the result of which is, it is thrown back by the circulation to the kidneys, and being altogether foreign to those organs induces the diseased condition to which we have referred.

Diagnosis – The diagnosis of

Scarlatina is not generally
difficult to determine; There
being always more or les fever,
which varies in different cases;
always some soreness of the
throat; the pulse is generally
very frequent and full.
In diagnosing this malady
we have to take into consid
eration the appearance of
the rash, which is often fallac
ious, and not always to be
relied upon; the pecu
liarity of the tongue; the
character of the inflamed
throat; and the absence of
the catarrh, which particularly

belongs to Marks.
The only form which is difficult to determine is the most malignant variety, in which death takes place in a very few hours from the commencement of the attack.
Treatment- In the milder form of this disease there need not be much medicine administered, the bowels being kept open by some gentle laxative. The diet should be light, such as milk or beef tea. The application of luke warm water to the

skin two or three times a day, and thoroughly dried, is very comforting to the patient. For soreness of the throat crushed ice may be given; if the symptoms of the throat are very severe with ulceration, antiseptic washes should be used; the best are solutions of carbolic acid or chlorate of potash; in some cases it may be necessary to touch the ulcers with nitrate of silver or its solution.

In severe cases the patient should be supported by

stimulants; such as port wine and brandy given freely, if the prostration be great; and in cases in which the necessary stimulants can not be given by the mouth, they may be administered by an enema. The tincture of the chloride of iron, and the sulphate of quinine, are very useful medicines in the treatment of this disease; especially are they beneficial after the acute symptoms have subsided,

Attention should also be

directed to the complications which arise; the principal of which is the trouble with the kidneys.
The application of dry cups and frigument hot poultices is very useful. It will also be found useful, to resort to prophylactic measures. The principal of which is to separate the patient from the rest of the family. The nurse, and those who have charge of the sick room, should be cautioned, not to allow the other inmates to come in contact with

the cups, spoons and other articles, used by the patient. Also all dejections should be promptly removed from the room and house; and every thing should be kept scrupulously clean.

Belladonna is also a very useful agent. It may be given, in the form of the tincture, to children under ten years of age, in the dose of five drops, thrice daily, until some redness of the skin or dryness of the throat manifests itself.

Too much emphasis cannot be

laid upon the subject of
pure, full and free ventilation.
It is one of the most active
agents necessary to the recov
ery of the patient in this
disease - How acceptable and
refreshing is God's pure air
to those who are enjoying
robust health - how much
more ought it to be, to His
afflicted ones, brought low
by disease. And strange as
it may seem, we meet with
persons every day who althou
gh educated on almost
every other subject, show
such unpardonable ignorance

where ventilation is concerned. How difficult it is to get them to distinguish between ventilating a room properly, and exposing the patient to a draught.

After the convalescence of the patient, strict attention should be paid to the room and contents, being thoroughly cleaned, purified and disinfected before it is again occupied.

As persons have been known to contract this disease months after the patient has recovered.

Scarlatina chiefly belongs to childhood; and is infectious as well as contagious.

Thesis

Scarlet Fever

Respectfully submitted to the Faculty of the University of Maryland School of Medicine

C. O. Zimmerman

Session

1881-82

Scarlet Fever is an exanthematous fever so named from the color of the eruption, It is an acute pyretic disease, and best characterized by a peculiar exanthem causes - It is a contagious disease, In degree of contagiousness it ranks between Whooping Cough and Measles. It may be carried in clothing for a considerable length of time, persons attending one sick with the disease are very apt to carry the germs in their clothing for days and even months, while they may not have even the simplest form of the disease, strips of flannel

have been known to carry the disease for a year also bed clothing

When uncovering a scarlet fever patient in the rays of the sun, a cloud of fine dust may be seen to rise from the body; this is contagious dust and settles on every article of clothing and furniture in the room, also in every crevice of the bed-stead

Persons who have previously had this disease are as a general rule protected from subsequent attacks, but it may attack the same person twice

The liability of taking the disease diminishes with the increase of years, but no age is exempt.

The majority of cases are between the ages of eighteen months and six years. Both sexes are equally liable: women after puberty suffer more frequently than men, because more exposed to contagion.

Scarlet Fever may appear at any season of the year. In England it prevails at the end of summer or from the middle of September to the middle of November.

In Rome N.Y. where

Inside) Scarlet Fever was very prevalent during the months of July and August, at one time there was reported to have been between one hundred and fifty and two hundred cases in a population of twelve thousand inhabitants. It was so severe in its character as to necessitate the closing of the schools for a short time.

There are three varieties of this disease, viz: Scarlatina Simplex, Anginosa, & Maligna. These three varieties are essentially the same disease, but are distinguished by the above names, to

show the different forms of severity

This disease is divided into three stages; viz Stage of Invasion, Eruption, and Desquamation. The length of the Incubation period is very uncertain some authors say that twenty four hours is the longest, others that it may last two and even three weeks). It is impossible to fix definitely the maximum, probably seven days are rarely exceeded

Symptoms

Scarlet Fever may be mild to such a degree, that the symptoms are not discernible by either

Physician or patient, and they may be so severe that the patient may die in twenty four hours, Between these two forms, there is one of milder type, in which all the symptoms of the disease are well developed but not excessively

Ordinary Scarlet Fever is divided into three stages as named above. The first stage or that of Invasion is the one which precedes the rash It comes on suddenly, one may be able to give the day and hour when taken

The symptoms are: sore throat, pain at the angles of the

Inferior Maxillary Bone and soon follows stiff neck. The attack may commence with a chill, and not infrequently with vomiting in children; but vomiting is not a prognostic sign of the severity of the disease; but often the severest form of Scarlatina Maligna follows such early symptoms. Diarrhoea is an early symptom in a majority of cases. Now follows the pyretic stage of the Invasion Period. The face is generally pale, but is soon followed by flushing and heat. On the first day, the temperature may reach 107°. The pulse being frequent according

to the height of temperature, that of a child reaching 90 at the onset of the disease. Epistaxis may be present. During the febrile movement the tongue is mostly covered with a white fur excepting the sides and tip, which may remain pale and moist. Anorexia and thirst, are present - skin hot but not necessarily dry. Nervousness drowsiness by day, nocturnal delirium especially in children, head ache frontal, but not severe, and aching of the limbs, etc. This stage between twelve and twenty four hours, usually followed by the rash which is the first

symptoms of the disease. Often making its appearance and then receding for a short time.
In such cases the internal symptoms are more severe, such as headache, vomiting, fever, etc.
Eruptive Stage - The rash consists of small dots of a bright scarlet color, most intense at the centre of the dot, then diminishing to its margin. They are not elevated to the touch, disappear under pressure, and rapidly reappear when the pressure is removed. The rash generally appears on the sides of the neck or chest, but may come out over the whole

body It sometimes makes its appearance first on the legs, it often closely assimilates that of measles it generally reaches its extent and intensity on third, or fourth day, and continues altogether from five to ten days

The Throat is always more or less present to some degree, The tonsils, uvula, and soft palate show an increased redness over normal, also swollen, ulceration of any other part of throat except the tonsils is very rare The lymphatics glands at the angle of the Inferior Maxillary are somewhat swollen and tender

some times suppurating

On the pyretic stage the temperature seldom reaches more than 100° in the axilla. When the eruption begins to fade the temperature grows less. If the crisis has been reached the temperature is less in the morning than later in the day and reaches its highest point at bedtime

Vomiting during the eruptive period is rare except in the severer forms of the disease such as Scarlatina Maligna. Constipation is sometime present but is easily overcome. As a rule

diarrhea is present also thirst and loss of appetite The Pulse may reach 144 in adult, 160 in child, and sometimes more without serious results. It generally falls with the temperature.

The urine is diminished and scanty in quantity during the first part of the disease but increases on the fourth or sixth day, sediments of uric acid and urate of soda are common

The skin is sometimes dry, but not always, where it is dry it shows nothing abnormal in the secretions, but that is evaporated.

The duration of Scarlet Fever is from ten to forty days. In some cases the pyrexia wholly ceases, while the eruption is still visible but the disease generally subsides after the seventh day

The desquamation stage frequently commences with the decline of the eruption but may take place to some extent before the eruption decreases. The amount of desquamation depends upon the extent and intensity of the eruption. It may last from a few days to one or two months If there are no complications convalescence generally commences

Frequently the inflammation extends through the Eustachian tube into the internal ear, sometimes causing permanent deafness.

The glands at the angles of the Inferior Maxillary bone become greatly swollen and are called Scarlitina bubos; this may occur early in the disease, or may develope during the stage of desquamation. The eruption in Scarlitina Anginosa may be wanting, it is but slight when present when this is the case we generally have albuminuria, also uraemia, but aside from this the throat affection may be so severe as to

cause death

Scarlatina anginosa may run its course without any eruption whatever, when this is the case, the internal symptoms are more severe such as headache dizziness sore-throat etc.

The sequelae which follow Scarlet fever and of rare occurrence, are articular rheumatism (usually confined to a few joints) vaginitis, pleuritis pericarditis, and endo carditis, the two latter are usually associated with renal disease or rheumatism, the three former may be either complications or sequelae

Rheumatism which occurs after Scarlet Fever as one of the sequelae is generally accompanied by dropsy with Albuminuria. This follows in quite a number of cases and generally attacks the patient from ten to twenty days after the stage of desquamation we frequently have swelling of the hands, feet, and face, with anasarca, sometimes respiration is embarassed by the presence of serous fluid in the pleura very often we have haematuria, urine scanty, uncertain, temper irritable, and the power of locomotion interfered with

Under proper treatment the sequelae are seldom fatal

Scarlitina Maligna or the most dangerous and fatal form of Scarlet-Fever. is an excessive disorder of the nervous system, the invasion symptoms are all well marked, delirium agitation and wakefulness predominate, the rash comes to the surface well marked considerable sore throat, high fever etc. severe delirium is present at all times, patient is uneasy rolling, tossing, gets out of bed etc. A Patient attacked with this form of the disease suddenly becomes pale, vomiting at short

intervals, the bowels are loose, the hands twitch, depression which increases, skin becomes cold with temperature febrile, the patient may rally for a short time so as to sit up in bed, sometimes there is a slight rash, depression soon returns. Face becomes pale, livid and perfect stupor ensues

This form may last twenty four or even less than ten hours. with the above symptoms we have the following viz patient sings loudly, mind confused, eyes blood shot, pulse frequent but depression soon follows with less delirium, muttering, pulse

becomes more frequent but weak and small, the circulation is sluggish, swallowing difficult, vomiting may be present and severe, belly tympanitic, then follows stupor sometimes accompanied by convulsions until death ensues

The above is one form of Scarlatina Maligna. The other form differs from the above in that it takes hold of the vital forces immediately when the patient is first taken ill

Treatment. In its mildest forms Scarlet Fever does not require much treatment. Confinement in bed in a well ventilated room, spare diet.

such as milk, corn starch, farina etc. The drinks should be cooling flaxseed tea with a slice of lemon is a very good. The clothing covering the patient should be light so as not to keep up the feverish heat. Some recommend an emetic to clear out the stomach. Thus rendering the disease less dangerous. In most cases an emetic is not needed because vomiting is frequently a diagnostic point of the disease. If the temperature of the skin is very warm. The wet pack or sponging may lessen its intensity. The water should be tepid. The patient will very often feel very much benefited

after the bath and very often will desire it to be repeated, frequently a purgative during the course of the disease may be of some value. The throat affection may be relieved by the use of ice in bags placed around the throat, also ice taken in the mouth may give sensible relief, gargles of water and vinegar and Chlorate of Potassium may be of some benefit, applications of caustics should seldom be used internally. Antiseptic applications, if patient is not to young, by a gargle of a solution of Chlorinated soda diluted with eight or ten parts of water, also permanganate of potassium a half gr. to five of.

of water, when itching of the skin is present it may be relieved by rubbing the body with lard or glycerine mixed rose water, or colagne, when convulsions attend the disease, inhalations of chloroform is recommended, also pressure upon the carotids. In cephalgia & coma, prompt measures of treatment are necessary, sweating should be obtained by warm or hot air bath or wet pack, also saline purgatives should be employed to throw off urea. When vomiting or purging is present before arresting it should be ascertained whether they are caused by uraemia or not, if so they should not be arrested

It may frequently become necessary to use anodyne remedies when restlessness and vigilance are not arrested by other means, such as hyoscyamus, belladonna etc may be used. All opiates should be used with great caution in children

Opinion

in relation to

Medicine

by

Cal. Stubbs

Oxygen in its Relation to Medicine

When Priestley, in 1774, discovered this wonderful agent of which we are writing, it is hardly probable, that he ever dreamed, that an omnipotent and omnipresent element he had been so fortunate as to bring to light, Animated by that mania for analysis which characterizes the true chemist, he must have watched, with keenest interest, the wonderful transformation, under the influence of heat, of a red powder into the bright liquid, mercury, and oxygen, how intense must have been his curiosity, as he began his examination of that gas, which, by its mere presence, could work so

wonderful a change; but he could never dream, that he was discovering the active principle of both life and death, and the key to so many chemical and vital phenomena, hitherto totally inexplicable to the wisest philosophers. The learned "Civis" in his interesting lectures on "The Atmosphere" has beautifully shown how, although oxygen is an indispensable necessity to animal life, yet it is the chief agent in all destruction and, in fact, is constantly menacing the whole world with instant destruction, for says he, if it were possible to take off from the atmosphere the nitrogen, the mere

lighting of a match would cause the immediate consumption of the whole world. Let us, now, glance at the relation of this element to physical life. One of the most universal laws of nature is change. The whole working of the universe consists of one series of ceaseless changes. We plant a little seed in the ground — under the genial influence of warmth and moisture, it swells and sprouts into the living plant, which growing larger and larger, in course of time, reaches its maturity and furnishes the fruit intended by nature; but not yet can it rest. No, its duty in that

form is accomplished, but now it must resign its borrowed elements to the earth from which they were received, in order that they may be transmuted to form just some other form. We build a house, and, all to soon, we see the evidences of the changes brought about by that insidious foe, Time. Oxygen is the willing slave of nature by which these changes are mostly brought about with most wonderful facility, it combines with almost everything, uniting with some in certain proportions to form the most deadly poisons, and then again, with other substances, or in other proportions to form the most necessary articles

The oxygen which we breathe into our lungs is as indispensable to our existence as the food which we take into our stomachs and to carry on the workings of our body. We are compelled daily to use an immense amount of it. Oxygen also enters largely into the composition of all of our foods. Nature, with her habitual wisdom, has supplied this all important element in the greatest abundance, it being estimated that ⅔ of the body of the earth, ⅓ of the air, and ⅛ of the water is composed of it. The atmosphere is a mechanical mixture of oxygen and nitrogen, the nitrogen simply serving

to dilute the oxygen just as water should dilute whiskey when we wish to secure the best medicinal effects from the latter. Notwithstanding the abundance of oxygen in the atmosphere, it would seem that the immense drain on it, every hour, would eventually use it up completely and doubtless it would, but for the complemental relations of vegetable and animal life by which the equilibrium is constantly preserved. The first function of oxygen which I propose to consider is the part which it plays in respiration. Having passed through the whole circulatory system, the blood has returned to the heart [illegible]

forced by that organ to the lungs. Here it comes into contact with the oxygen which we have breathed, and the hæmoglobin of the red corpuscles of the blood seizes it with the greatest avidity, its color turning to a bright red. The blood, now returning to the heart, is again sent out to the various tissues of the body, charged with the necessary element for their nutrition. The oxygen which the blood now contains, is an essential factor in the changes which these nutritive elements undergo to constitute the vital activity of the various parts. Organized tissue is almost entirely composed of combinations of the four elements

carbon, hydrogen, oxygen and nitrogen. These compounds, having entered the body, undergo various transformations in their passage through the several organs and tissues; but the elements themselves are unchanged either in quantity or quality, and must in some way be gotten out of the system. How is this to be done? We have three ways. The lungs, the anus and the organs for passing off the watery secretions, viz; kidneys and skin, with their appendages. Through the anus, is passed off little except the unabsorbed residue of the food, so we have the lungs and kidneys to carry away the waste matter from the

tissues themselves. The lungs are specially intended for ridding the blood of gaseous matter, and as before stated, the kidneys and skin carry off the water constituents. Some of the oxygen, which is carried by the blood throughout the system, unites with carbon and forms carbonic acid gas, which remaining in the blood, is carried to the lungs and there discharged in expiration. Some of it is united with hydrogen forming water and still again we find another portion in the product known as urea, which, when dissolved in the water, passes out of the body through the kidneys as urine.

that oxygen has to assist in the preparation of all the excretory products of the body. Doubtless though, the greater portion of respired oxygen goes to the formation of carbonic acid gas, of which the carbonic acid is certainly found to take the place of the oxygen. Thus we see oxygen is constantly rushing through our bodies carrying life and activity wherever it goes, and, saying hold of those elements, which having done their duty are now mere debris and useful to the system, carries them away to ~~death~~ new spheres of usefulness in the external world. Suppose the nerves blood reaching

the lungs, should be refused its quota of oxygen, and be supplied thus to return to the systemic circulation, would our bodies go on functioning as well as ever? The food which contain abundance of nutritive material probably it has just received a bountiful supply from the digestive duct, as it was on its way to the heart, but would the workings of the system become clogged by the products of their own activity, and soon would come stealing over us that feeling of lassitude, which we so often experience when we sit for a long time in a warm close room, or in a crowded hall; and that a

delightful sense of relief we obtain upon stepping out into the open air. No wonder the tired merchant heaves a sigh of satisfaction as he leaves the stifling atmosphere of his counting room and "The playful children, just let loose from school" shout for very joy as they bound out into God's free, pure air and feel their sluggish blood begin to course through their veins with renewed vigor. And this reminds us how important are hygienic regulations, which have for their object the supplying of fresh air. If a bird is put into a closed vessel at first it hops about as lively as ever; soon, however, it

birds drowsy and stupid; but if, now, another bird be put in the same chamber, it will die before the first bird, thus showing that the latter has to some extent become accustomed to its surrounding atmosphere. Undoubtedly it is the same way with us. The bookkeeper, absorbed with his accounts, is unconscious of the difference between the atmosphere of his office and that of the external world, until he discovers it by comparison. Similarly a day passes but what the physician sticks into some sick room, where he has almost to gasp for breath as though he had an attack of asthma, and

yet his patient lies before him breathing with apparent ease, thus showing that we can live in an impure atmosphere, but what a miserable life it is. It used to be a favorite idea with some, to compare our life to the flame of a candle. The candle, in the open air, burns brightly, throwing its light on all surrounding objects, but put this same candle in an atmosphere less rich in oxygen; it still burns, indeed, but with lustre so diminished that it is practically useless. So with the body. So long as it receives its due supply of oxygen, caeteris paribus, its [illegible]

goes through life so full of health and spirits that he carries joy and sunshine wherever he goes; but just this individual where his supply of oxygen is diminished or vitiated, often, unfortunately, both, and soon the elasticity and activity of the body is succeeded by lassitude and a general feeling of malaise; the non-oxygenated blood, as it comes to the surface, substitutes, for the former healthy color of the skin, its own dusky hue; the digestive apparatus, missing its necessary stimulus, refuses to prepare the food for assimilation; the heart, faultless alone! finding something wrong

seeks to rectify it, and failing, falls
a victim to its own generosity! The
brain, clotted by the debris, which the
sluggish blood refuses to carry off,
becomes dull and heavy, and the eye,
the index of the mind, loses its
gloss of intelligence and assumes
the hopeless and despairing look of
the confirmed hypochondriac.
Altogether, our friend was the
picture of wealth, was like
"Cæsar's Cassius, had a lean and hungry look."
Since then, so formidable a train of
evils may thus be induced, how
careful we should be to keep
ourselves always supplied with an
abundance of air. The more we

business compels him to remain indoors should have his apartments well ventilated. Cities should abolish the custom so prevalent amongst many of them, of sitting for hours in close hot rooms. Instead of religiously guarding our sick from every breath of air, we should see that their rooms are plentifully supplied with it. Our health officers should see that our public buildings are properly ventilated, especially our school houses. O! how sad it is to witness how often, from neglect of this precaution, in the endeavor to cultivate the minds of children, the

bodies are wrecked forever, thus rendering futile the brilliant(?) education, for which they have sacrificed so much. By ventilation, I do not mean throwing apartments open for the free passage of draught. There is, or at least should be, reason in all things, and we would in this way err almost as seriously in one extreme as we may have been doing in the other. Air is the amount of oxygen the only thing necessary, for it has been proved that oxygen sometimes seems to become devitalized, as it were, and even in this state, it is found to be incapable of sustaining life, even

through supplied in abundance, until the electric spark has been passed through it.

Ozone is an allotropic form of oxygen and very little is known of it. Dr. W. Sherry says: "When designedly inhaled it produces irritation of the nasal passages, and more or less of catarrh. It is probably influential in causing catarrhal affections in cold weather. The same distressing train of symptoms which were described as arising from insufficiency of oxygen in the atmosphere may also be noticed in some diseases, for example, Consumption, a disease which, by the way, is often <u>induced</u> by

the inhalation of rarefied atmospheres. Here, however, the fault lies not in the insufficiency of oxygen presented for inhalation, but in the inability of the individual, through disease of the lungs, to appropriate to himself a sufficient amount of oxygen for the needs of his system. In asthma the bronchial tubes contract spasmodically, thus diminishing the supply of air to the lungs. For these troubles, the inhalation of condensed air has been recommended, as that in the same volume of air, a greater amount of oxygen may be present. One way in which oxygen is a powerful agent in medicine is

by its antiseptic and disinfectant properties. This Ozone, of which we were first speaking, is said to be instrumental in purifying the atmosphere by destroying these low forms of organic life, which, floating about in the air we breathe, so often become the germs of disease. Some of our best disinfectants, as permanganate of potash, act by yielding up oxygen, which, uniting with unhealthy matter converts it into innocuous compounds or into gases which can be easily wafted away from our homes (& those of our neighbors). It is a source of wonder to many, even as it is, that

water of a river, which, as it passes by great cities, receiving the scum & filth, which is thrown into it, is suitable for drinking purposes lower down. The answer usually given to inquisitive ones is "O, it's running water, you see." Yes, then why don't it run in some of the filth, which it has received above? It will no doubt it does, to the no small detriment of the health of the consumers, but the reason that it is even as passable as it is found to be, is that the water has actually undergone a process of purification in its progress, and no longer contains many of the

products which formerly contaminated it; for the river as it ran along its channel, now dashing wildly into spray against some opposing rock, now, proud of its silent depths, rolling along in majestic grandeur, ~~throws~~ first one portion and then another of its body to the air, when the oxygen, like some ravenous bird of prey, pounces, with the quickness of thought, upon some of its contents and converts them into inert matter, or, seizing others with, returns them to the air, when the winds waft them along until, in the economy of nature, they are used to advantage. Thus, by the

time the water has reached some other city, needing it, it is, to a great extent, free from hurtful products. Oxygen will act, to a certain extent, in the same way, in vitiated atmospheres. There is no better disinfectant than a plenty of good fresh air. All of us have taken advantage of this property when we threw open the windows of a room, in which had been some infectious disease, or hung out in the air some suspected garments. The oxygen here does not act simply by carrying off the germs, but it actually destroys many of them.

But oxygen, like humanity,

is for it for evil as well as good. I said, a little while ago, that it often united with various substances to convert them into harmless compounds. But then, again, sometimes it forms combinations which are the most powerful poisons. Nitrogen, for example, is a perfectly harmless gas, air, until two parts of it, to three of oxygen and we have an irritating, irrespirable gas. Oxygen is also an active agent in the production of decomposition, in the progress of which, sometimes, germs of most fatal diseases are liberated. The good housewife stores her cupboards with

delicious preserves. intending them to be enjoyed by the family; through some little crevice, inadvertently left in sealing them, the oxygen gets the first chance at them, and if they are eaten, they are entirely different from what they were at first and the children are all made sick. This agency of oxygen in decomposition should teach us another useful lesson, in hygiene viz: that of cleanliness. Of course if nothing is left exposed to the attacks of oxygen, it cannot find anything from which to work out destructive agents, therefore we

should exercise the strictest care to see that all refuse matter or anything, liable to undergo decomposition, should be removed from the premises. Many a family has fallen a victim to the neglect of this matter. Many ~~murder~~ disregard, through carelessness and utter again, many through ignorance. It is makes it all the more imperative that our health officers should be rapid in the enforcement of strict cleanliness. When pure oxygen is inhaled it produces a sense of warmth in the air passages and a feeling of general exhilaration somewhat similar to that produced by the

inhalation of nitrous oxide gas.
From this fact it has sometimes been thought that it might be used as an anaesthetic. I do not know, however, that it has ever been used to any extent. I have only seen one notice of it, and this was the result of some experiments made by two practitioners in Richmond, Va. I do not think, though, the results were very satisfactory. The oxygen has administered for the purpose of extracting teeth and while some of the patients asserted that they suffered no pain, others did not seem to be benefited by it.

Oxygen, as before stated, is indicated in phthisis and asthma and has been successfully used for the relief of these diseases. It has also been used in other diseases, which are supposed to be due to insufficient oxidation of the blood, as in dyspnoea, in chlorosis, anaemia, leucocythaemia &c. Also in chloroform narcosis, and poisoning from various gases, as our ordinary illuminating gas.

Opium

Its Physiological action, and Therapeutical uses.

L. C. Hall
South Carolina

Opium

part of Asia, in Europe and
in the United States. During
the late Civil War the Cul-
tivation of Opium attended
much attention in the South-
-ern States where it was
successfully prepared in
Virginia, Tennessee and
South Carolina. Prof. Sanders
of Charleston S.C. (Resources
of Southern fields and
forests P 26) states that
in the climate of South
Carolina and Georgia the
poppy should be planted
in September; the plants
are not killed during the
winter, they thrive in the

early Spring, and the Capsules
are ready for incesion in
may, several attempts made
to obtain the poppy by plan-
ting in April and May
but failed, the seed not
coming up. A Gordon Square
yielded this 330 drachms
of Opium of excellent
quality. Most Opium whose
now is imported from
Asia Minor, and is called
Turkish Opium. It is of
a dark brown color, and
[illegible]ally contains from
7 to 12 % of morphia.
Opium contains a great
variety of chemical constituents

the most important of which
is the alkaloid morphia,
The taste is very bitter and
somewhat acrid, and when
chewed it excites irritation
in the mouth and throat.
It is inflamable, and im-
parts its virtues to water
alcohol and dilute acids
but not to Ether. The form
in which Opium is most
employed for the imme-
diate relief of pain, since
Hyperdermic medication is one
of the salt of morphia.
The sulphate being preferable
Opium in small doses
increases the cardiac [illegible]

life are often rather abrupt-
ly suspended, The patient
soon lapses into a condi-
tion of insensibility with
a blue and pale face or
it may be light in the

The Respiration is very slow-
face at first flushed, but
soon becomes shrunken and
cyanosed, skin wet, Pupils
minutely contracted and in-
sensible to stimulation, This
stage of Opium narcosis is
with difficulty distinguished from
Alcohol narcosis, Cerebral
hemorrhage and Uraemic
Coma, An attentive con-
-sideration must be given
to all available facts in
the history of the case, to
the surroundings of the
patient and to the odor
of the breath, Children
are very susceptible to

In Peritonitis, whether Puerperal traumatic, or the extension of intestinal inflammation, no fact of Therapeutics is better established than the Curative power of Opium. Besides its immediate influence over the inflammatory process, its indirect action, in maintaining the necessary quietude of the intestines, is of the greatest service. In perforations of the bowels in Typhoid fever Opium is necessary to arrest the peristaltic action of the bowels. In the incipient Stages of Pneumonia, before

or after. you have detected the Crepetant Rale, Opium Combined with Sulp Quinia is of very great Value, in this way. you can prevent the migration of the White Corpuscles of the blood and Relieve the pain, The various forms of Neurolgia, Opium and its preparations are very Serviceable. In Sciatica Sulp Morphia with a Small amount of Sulp Atropia used Hypodermically, immediate Relief is afforded, and the Relief is not temporary and palliative, but Curative in numerous instances

Opium or Some of its prep-arations enter into Compo-Sition with most all expec-torant mixtures for allaying Coughs

Opium is incompatible with the Alkalies, astringent infusions Containing Tannic acid, and with many of the mineral Salts, as the Acetate of Lead

application, From its proper-
ties of assuaging pains, and
inducing Sleep, it is useful
in almost all diseases, and
is positively Contraindicated
Only where there is a tendency
to Apoplexy or Coma, or where
there exists an idiosyncrasy
with respect to its effect
Tho' an anodyne, We have
no substitute for Opium.
And as a Hypnotic in mania-
-pore, Wakefulness, it is equal
in valuable From its power
of [illegible]
it is [illegible]
[illegible], Colic
Spasm of the Stomach, bowels

biliary ducts, ureters, neck of the bladder &c, In Dysentery and Cholera, it forms the basis of every variety of treatment, both for its diaphoretic effect, but, principally for its action in arresting both Secretions, and the peristaltic motion of the bowels, Opium is the most important agent which we possess in the treatment of various inflammations, Its efficacy depends upon Several factors, it relieves pain, quiets restlessness, and thus removes from the inflammatory process, one

of its most important elements
viz an irritable and paretic
State of the nerves of the affec-
-ted parts. Besides these ef-
fects, Opium raises the to-
nicity of the vessells, helps
to maintain the continuity
of the blood current, and
hinders the migration of the
white corpuscles of the blood
It is especially in inflam
mations of the serous membranes
that its highest utility is
manifest, E.G. Pleuritis, Peri-
-tonitis Arachnitis &c, If Giv-
-en at the outset, Opium
will sometimes cut short
these maladies, If the period

has learned for obtaining such fortunate results, the course and duration of these diseases can be greatly modified by the judicious use of opium. The quantity of opium required, will be determined by the effect: the pain should be relieved and the pupils somewhat contracted. The idiosyncrasies of different persons vary. and we should be guarded in giving opium. In some persons small doses, will sometimes produce the narcotic effects while others can take large doses with little or no effect

Parturition.

In speaking of hemorrhage it is necessary to divide it into the two classes that are generally recognized viz: Unavoidable Hemorrhage, and Accidental Hemorrhage. Each of these varieties will require a separate consideration.

Unavoidable Hemorrhage - Ever since the days of Zweifel, the insertion of the placenta over the os uteri has been considered an inevitable cause of hemorrhage during the last three months of gestation, and in the course of the parturition. The cause of the hemorrhage is evidently the

seperation of the placenta from the cervex thus causing to a greater or less extent the laceration of the vessels connecting the two. The amount of the distarge varies, but as a general thing it is not excessive in the first instance, nor is it accompanied with pain. After it ceases the patient rallies but it is liable to recur again, the course of a week or two in greater quantity, and again cease and so it may continue to recur after a longer or shorter interval, each time growing more and more profuse, and thus each moment

jeopardizing the life of both
mother and child. Luckily however
this presentation is rare, occurring
as it does only once in 573 cases. [illegible]
Diagnosis. — The sudden and appear-
antly causeless occurrence of the
first hemorrhage, the increased
flow at each recurring period,
together with the detection of
the placenta partially or wholly
covering the os uteri, or descending
to its margin, are the distinctive
characteristics of unavoidable hem-
orrhage. Treatment. — If we are
called on the ocasion of the
first or second hemorrhage,
and find that the distinct

has been small, and the term of pregnancy not yet complete, and the uterus not in motion we may by palliative treatment. Perfect rest in horizontal position, cool drinks, cool room, and light clothing. But if the hemorrhage be very alarming, from the nature of the case there is no hope of carrying the ovum to full term. In these cases we have no remedy but to induce premature labor, and in many if not most instances the result is fatal to the child, therefore all of our attention must be turned to the safety of the woman. Fortunately

the os uteri is generally soft and dilatable on account of the repeated losses of blood. So if the os be open enough to let our fingers when brought together in the shape of a cone pass in to the uterus then we may at once go to work to effect the delivery. Pass the fingers in the way spoken of, then gently opening them dilate the os, carry the hand in and shave the placenta off — then rupture the membranes seize the feet of the child, turn and bring it down into the vagina. The breech will act as a plug to stop the hemorrhage.

We may trust to nature's efforts alone to effect the delivery, but if this be not sufficient we have the progress of the labor entirely under our control, and we should never permit a woman to die undelivered."

Accidental Hemorrhage.

Concealed Hemorrhage —

When the hemorrhage does not appear externally, this constitutes the most deadly and dangerous of all forms of hemorrhage; and misleads even the most experienced and careful observers in making a diagnosis. Therefore it requires the utmost watchfulness on the part of the accoucheur, to recognize it when it does occur, and the promptest treatment for its relief. The blood may be effused between the uterine face of the placenta, and

the corresponding uterine wall. As the hemorrhage progresses it generally dissects off the placenta to some one point of its circumference and is then effused all round the ovum, by displacing the membranes. But it may happen that the whole placental circumference may remain adherent to the uterus while its central portion is entirely detached -- thus limiting the effusion by the margins that still remain attached; and the hemorrhage may be severe enough in such instances to kill the patient promptly.

The hemorrhage can generally be recognized whenever it is abundant enough to endanger the mothers life. We have the general phenomena that accompany all profuse discharges, with the unusual and rapid enlargement of the abdomen. The pulse also becomes correspondingly weak and irregular.

Internal hemorrhage is especially dangerous after the membranes are ruptured, because then the blood may escape in large amount into the cavity of the uterus, or easily press the membranes aside. In this case the danger will be indicated by the general

symtoms, and the diagnosis confirmed by the uterus which had contracted firmly after the discharge of the waters, is now found to have attained a size equal to or greater than its original volume. On the whole therefore the general phenomenon that accompanies all loss of blood, and a rapid enlargement of the belly, are the two characteristic signs of internal hemorrhage." Internal hemorrhage is frequently followed by weakening or even suppression of pains. The abdomen sometimes becomes painful, and in some cases an obscure fluctuation can

be detected. Nevertheless it has been observed that under certain circumstances the abdominal swelling may be altogether wanting, and yet the syncope be dependant on an internal distasye. The patient is taken at first with violent uterine pains that reappear at certain intervals, and each one of which is followed by a slight issue of blood from the the vulva; then at a moment when least expected, the symtoms of a most alarming syncope come on, though but little blood can be found upon the clothes, and the uterus is scarcely

distended. But by making a careful examination the accoucheur will find that although this organ may inclose but an inconsiderable coagulum, and although the blood does not escape freely to the exterior, yet it is because the vagina is distended by clot as large as a childs head, constituting intravaginal hemorrhage."

"The gravity of the Prognosis depends very much on the amt. and rapidity of the discharge. For the loss of a given amount of blood may be of small moment to a vigorous woman,

but very dangerous to a weak one, and it is more dangerous in a primiparous woman than in one who has previously borne children. For if the flooding occur at the commencement of labor, before the dilatation of the os uteri is effected and before the external parts are in a condition to permit the free and easy passage of the head, the means adequate to and calculated for the termination of labor will be with much more difficulty applied, and cause

more delay, and consequently a greater amount of blood might be lost." As a general rule the prognosis is unfavorable — for should the hemorrhage be arrested, and she escape with her life, yet the shock is so great as often to break down their health and constitution for a long time, or it may be permanently. But the mother is not alone the victim of this most to be dreaded complication., for statistics tell all too plainly how very large is the proportion of children sacrificed.

Treatment.— The treatment in these cases are obvious; that is to terminate labor as rapidly as possible. To do this, we should rupture the membranes and employ all those means that are calculated to hasten the uterine contractions, such as pressure from without, ergot &c., and to watch the state of the womb closely. But if the os is dilated or dilatable, the delivery may be effected at once by turning or the application of the forceps.

Post Partem Hemorrhage.

A woman in her confinement is indeed subject to many and grave dangers, but perhaps there are none, that the Accoucheur is so frequently called upon to bring his skill and judgement into play, as in the arrest of post partem hemorrhage.

It is a terrible emergency. The
woman's life may be trembling
in the balance, fluctuating between
life and death, and a single
indecision on our part, a
moments waste of time may
hurl her into eternity.
How important is it then that
we should be thoroughly acquainted
with all the means of controlling
it. Here is no time for indecision,
here is no time to try to recall the
words of advice that fell from
the lips of our teacher in the
lecture hall. Here we have to
act as it were automatically.
Act with decision, and above

all, to act with with efficiency. And to do this it is necessary to have at our command all the agents that we may be likely to require. Nor should this ever be neglected, for when the emergency does occur it may be too late then to provide ourselves with those things, which by our carelessness we have failed to do. And oh how awful may be the consequence — a woman who has confided her life to our keeping is sacrifised a husband mourns a wife, and a new born babe is left without that

support which nature had intended, and the chances are against its long surviving the mother.

Symtoms. — There is always a certain amount of blood lost after delivery, nor is this injurious; and it is only when it is so great as to produce an impression on the constitution and pulse that it is to be considered flooding. If it be profuse the patient faints and for a time the flow is arrested, but as soon as she regains consciousness it recurs and the syncope is repeated. The surface becomes blanched, the eyes have a vacant

stare and a dark line encircles them; the extremities are cold and the surface is bathed in a cold and clamy sweat; the pulse is weak quick and flutering, and in some cases imperceptible. If the hemorrhage be not arrested all these symptoms increase, the sight becomes dim, there is great uneasiness and restlessness, followed by fainting or convulsions and death.

Treatment.— If the hemorrhage comes from a relaxation of the uterus of course all our remedies must be directed to secure the the full regular and permanent contractions of the uterine fibres. In order to

do this it is first necessary to have the placenta expelled. Keep the hand on the uterus during the third stage of labor, and follow the placenta down; as soon as the head is delivered there is usually a pause in the pains - this then is a favorable opportunity for administering a full dose of ergot, then keep the hand over the uterus kneading it and it will be rare that there will be either retention of the placenta or post partem hemorrhage. But if all these means fail in expelling the placenta we have only to be prepared for the worst emergency that may occur.

The hand should now be introduced into the uterus, and commencing at the thinest point, gently shove it off little by little; and after we have severed all the connections that exist between it and the uterus we should not immediately withdraw the hand, but leave it in till the uterine contractions have been induced, and the cord ceases to pulse. If we make pressure from without on the hand within the uterus. But when the placenta has been expelled and the uterus remains flaccid and doughy to the hand, or the pulse remain

above one hundred, we will know that hemorrhage is brewing. Firm pressure on the uterine walls, and a napkin soaked in ice water suddenly slapped on the nape or thigh to produce a shock, will in a certain number of cases be all that is necessary; and this is far better than packing the woman with ice. But on the other hand there are a certain number of cases in which these means fail. In these cases inbalance the hand armed with ice — the hand will cause irritation and reflex action. The ice will not act as a preju-

body and cause the uterus to contract on it in order to expel it. Then again you have the hand on the outside to make pressure on the hand within. The injection of hot water causes violent contractions of the uterus and its effects are very satisfactory, so if the means above fail we may try hot water injection. A sponge saturated with vinegar and carried into the uterus will also cause its contraction and it is always at hand. Compression of abdominal aorta was introduced by Saxtorph and has been recomended. But unfortunately, after all these remedies

there are some cases in which the hemorrhage still persists and the uterus still remain soft and placid; [illegible] still the hemorrhage may stop; the reason for this is, that there is a coagulation of the blood or thrombus. And if nature does this may not art to the same? Per chloride of iron with three or four times its quantity of water passed into the bleeding uterus will cause a coagulation — but the objection to this is, that it becomes hard and and hazel be removed by mechanical means or it might light up an inflammation

which would rapidly prove fatal.
But a less dangerous method is to take one part of Iodine and two or three parts of water, which will form the clot as readily as the perchlo. of iron.
In concluding I would only repeat what I have before said, and that which our teacher has so faithfully and earnestly tried to indelibly impress upon our memories — that we should be ready in every case to meet the contingency and the emergency before us.
"A commander would be foolish indeed if he did not array his troops until the enemy was

upon him - So it is here, no soldier or military hero requires more pluck or nerve, or such decissive action, as does the accoucheur who stands by the bedside of a woman whose life stream is gushing from her with a violence that seems to defy all human skill

Respectfully submited by
Chas. L. Austin of
West Va.

Session 1881-82.

A Thesis

on

Epilepsy

by

Geo. W. Butler.

Epilepsy.

Definition.—Epilepsy is a functional disturbance of certain nerve trunks or nerve centres, characterized by sudden seizures, complete loss of consciousness, and lividity of countenance.

Causes.—The predisposing cause is an inherited tendency. Exciting causes are drunkenness, sexual excess, sudden fright, any powerful emotion, long continued anxiety, overwork, masturbation, witnessing an epileptic attack, and Prof. Hammond says the cry of one epileptic in an asylum may bring on the attack in every epileptic inmate, the cry being transmitted from ward to ward. It is difficult and at times impossible to arrive at the beginning of Epilepsy. The inherited tendency manifests itself in various ways in different generations: in one, it is absentmindedness, forgetfulness; in a second, neuralgia, paralysis, nervousness; in a third, true epilepsy; in a fourth, insanity. One sex is as liable to the disease as the other. Most hereditary cases begin between seven and twenty years. Dr Reynolds says not a single case which was hereditary began after twenty

Where in the Catalogue of created things - where throughout the universe Entire, can we find will we meet with a structure more Beautifully - wonderfully and delicately formed than the organ of vision the Human Eye? In the Examination of what attribute of our nature can we find a parallel? In structure - in usefulness, it stands supreme; And yet delicate strength - it be however wise the adjustments of the several tissues Entering into its composition however complicate they are -

however liable ~~they~~ it would seem to be effected by the various vasisitudes to which we daily expose it, yet we find it admirably withstanding all ordinary shocks and beautifully provided intuitively against all objects, which without such protection would greatly effect it and be to us a constant source of caution, inconvenience and annoyance.

The study of so important & beautiful an organ must then be both profitable & instructive. For a structure

so delicate + so much exposed must be liable to accident + disease and so it is.
A vast number are mentioned, by any-one of which it may be affected at any time of mayhaps by several at once, these with their treatment will form the subject of this my Thesis. —
First then I will notice injury + disease requiring surgical treatment + then those more particularly asking medical care — though they are closely connected + the one fully employed

almost certainly comprehends some part of the other, so it will be impossible to sepparate the one from the other. But before proceeding further it would be well perhaps to mention briefly the parts composing the organ; though will not attempt to give its minute anatomy.—

From without inwards we first come to the brows & eyelids, composed of integument orbicularis muscle, tarsal cartilage, Meibomian glands & conjunctiva. The globe is of three tunics & three humors

The tunics are:—

The outer, Sclerotic & Cornea.
" Middle, Choroid, Iris & Ciliary processes
" Inner, Retina
The humors—Refracting Media.
Aqueous, Crystalline & Vitreous
The Optic Nerve (2nd) which conveys the image received on the retina to the brain & is the nerve of vision.
The Motor Oculi (3rd) Pathetic (4th) & Abducens (6th), supply the muscles while the lids are supplied by the supraorbital & Facial
The arteries Opthalmic, Ciliary (two) & Arteria Centralis Retinae go to nourish the organ.

Injury to the lids & brows are caused by direct blows or explosions. These are seldome dangerous if confined to the external parts, but require to be most carefully adjusted to prevent any mark or deformity. When the edges of the wound or wounds are brought to gather properly, secure them by sutures passed by means of fine needles through the cartilage, if divided, the wounds being closed properly, a linen rag wet with cold water laid on and inflamation contracted,

Ectropion.

Inversion of the eye lids.

This disease is to be cured by an operation many of which are mentioned by Oculists. In the simplest, most successful manner now employed is by removing an elliptical piece from the lid, & longitudinal with the edge of the lid. the two edges of the wound are then brought together & held by sutures.

Ectropions.

Eversion of the lids.

Caused by thickening of the conjunctiva, chronic inflammation or by any cauterizing

matter, which cause ulcer-
ation + that followed by
cicatrization + then we must
have contraction.

Treatment.

If we burn the inside of
the lids with Fuming Nitric
Acid every week or so we cause
ulceration, cicatrization +
contraction, + this turns
the lid or lids in, to their
normal position.

Should the trouble be caused
by a burn we raise + dissect
the cicatrix off + then do
a plastic operation. I.E. tak-
ing a piece of skin from
some part of the body put

it on the raw surface. The skin can be & is gotten from the cheek or temple & turned around.

Cataract —

By Cataract is meant. opacity of the crystalline lense or of its capsule of of both. May be hard. soft. lenticular or capsular. This disease we find generally caused by inflammation or injury but in some few cases it is congenital. The ordinary cataract we see in the aged is generally traced to bad hygiene. In all cases dilate the pupil with Atropia before

Examining an eye, where
Cataract is suspected,
Then if it be capsular a
gray will be seen behind
the pupil, bluish if
lenticular.
Symptoms.
Vision greatly impaired.
objects seem to be seen
through a mist. better
sight in the evening or in
subdued light, patient
sees much better after us-
ing atropia in the eye,
The patient can always
tell day from night.
Treatment—
The cataract must be

removed to effect a cure.
An operation however should not be done unless the patient be in good health & the disease quite mature.
The operation for extration is the safest & only means to ensure a perfect cure. & consist of the entire removal, of the part affected. which is difficult & to be successful requires knowledge. skill & practice.
Operation—
The patient having been anaesthetised. the speculum is introduced, the surgeon first punctures the cornea

just above the centre of its outer margin, then the blade of the knife is pushed quite across in such a way that the point will make its exit through the cornea, just opposite the incision, so as to have a semicircular flap, then rolling the eye down, introduce a curette & freely lacerate the capsule of the lens, then by gentle pressure with curette on the globe the lens is made to exude through the opening, then see that the iris is not prolapsed, if so cut it off, & adjust

the cornea, now put in the eye a drop of Eserine, + bandage with raw cotton pressure over both eyes, + we find the operation completed.

The patient must then be kept quiet in a dark room for two weeks or more, with their excretion kept normal. Dark glass must be worn after leaving room for some time, especially when in strong light. Should inflammation set up as it may do, cold applications + opium to [illegible] rest are advised.

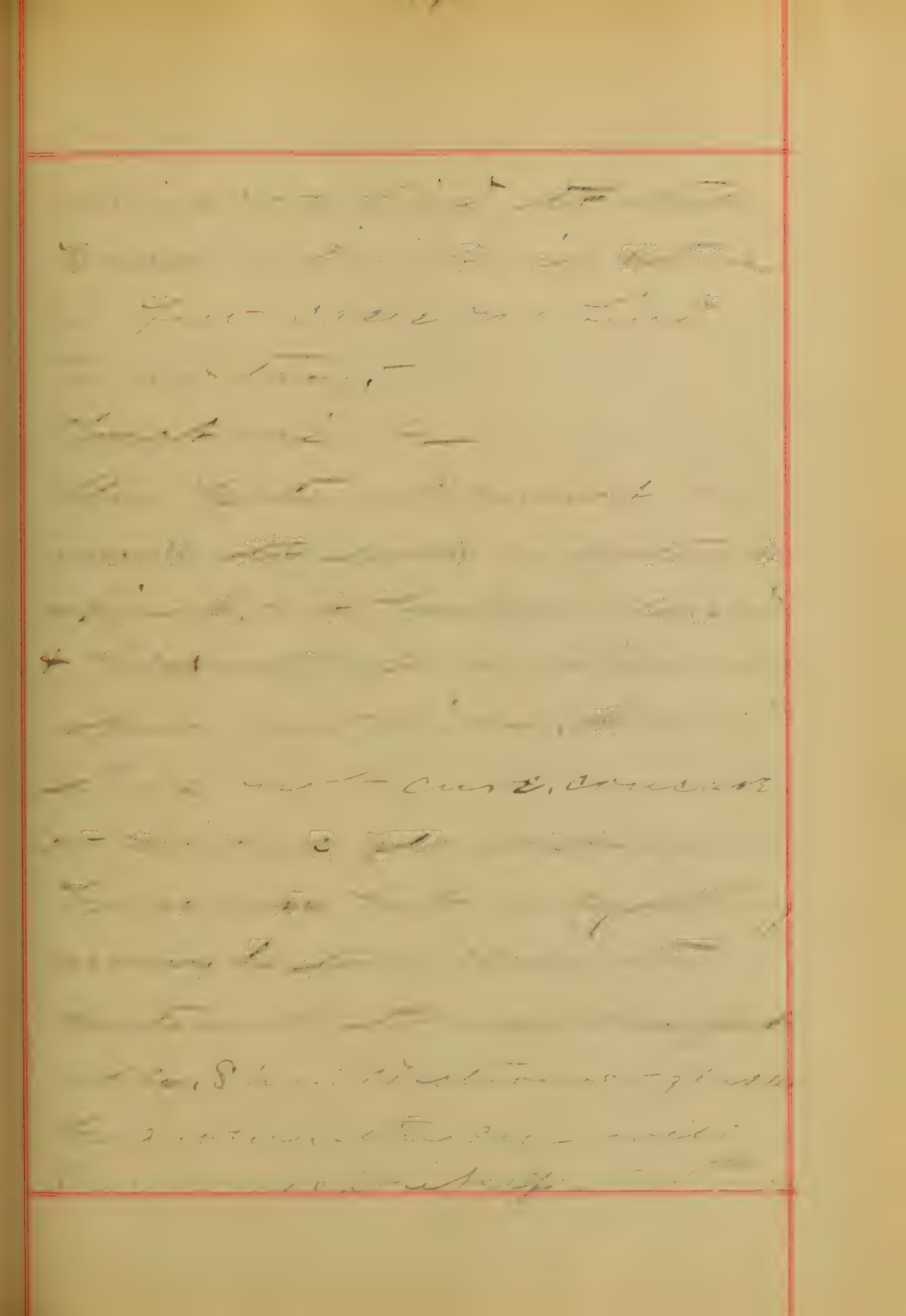
humor to lense. without
cutting into fragments or
displacing them or making
too large an incision.
Then the same after treat
ment as in Extraction.
This operation is apt to
be followed by severe
pain & much vomiting;
in many cases we find these
symptoms so severe as
to make extraction
necessary.
Congenital Cataract should
be operated on during
the first four months
of the child's life.

Obstruction of Nasal Duct.

We find this most common in young persons of Scrofulous & Syphilitic diathesis.

Symptoms.

The eye weak, with tears flowing over lids & same side of nose dry, the lachrymal sac is distended & often forms tumor at side of nose from which tears & mucus is made to exude by pressure. Its going through the puncta or through the nasal duct, should it not be entirely closed this obstruction may & often does lead to Fistulae Lachrymalis



Atmospheric Air.
Its Composition.

F. R. Malme.

Atmospheric Air.

§15 Composition.

By the Ancients and in reality we may say from a time anti-dating Mediaeval man but by a limiting period this invisible elastic envelope which surrounds the earth was considered as the habitation of "Divinities and Demons". Hence the sequence of distinct law, were considered the expression of the pleasure of certain supreme Divine.

And this many of the scientific phenomena depended upon the condition of the Atmosphere were explained.

And such interpretations striking

dim and filling with awe the mind, to which these results of dame nature were rendered more ghastly by a fanciful speculation, which had become so fully developed this time. by the agency of a misguided ignorance.

But this deplorable condition of misguided man. this lamentable consideration of one of the many phenomena of vast and diversified nature was not always exist.

As the phenomena of nature & human things are constantly undergoing changes, so fortunately do we

have a change in the phenomena of thought.

The germ of scientific man, which had lain dormant for centuries, wraped in the garb of metaphysical speculation, stimulated by the "Induction method of Bacon who is truly called the "Father of experimental philosophy:- now began to proliferate: its growth was slow. Still in its infancy it was forced to encounter the stern uniformity of law, a system of which laws is recognized as inflexible nature.

He thought his knowledge

grew, and gradually collecting loose information through actual investigation, began to generalize - accumulating truth after truth and finally through continuous research began the development of a more perfect science.

Thus facts continued to accumulate - we pass the centuries: the scientific world has increased in ~~mo~~ magnitude - continual vascillating; to-day revolutionized by the great grand discovery of the illustrious Newton, demonstrating the immutability of law even among the

celestial bodies; tomorrow ~~by~~ agitated by the astounding revelations of the Chemist, who establishes among the minutest particles of Matter, (as to their combination &c) a mathematical constitution as fixed as that of the solar system.

The scientist thus stimulated by the success of his researches, continued with restless anxiety the solution of Nature's laws.

When finally, between the middle and close of last century, we have revelling in sublimity the grandeur of Newton's discovery, which

was none other than the discovery of Oxygen Gas, the predominating discovery of the age, creating an Epoch in the progressive history of human knowledge. It

This gas unknown through immeasurable eras of time, owes its discovery to the observations of a Priestley in 1774. And in the following year it was discovered independently by Scheele.

The extent of the importance of this discovery is well shown by Prof. Liebig

who says "Since the discovery of oxygen the civilized world has undergone a revolution in manners and customs. The knowledge of the composition of the atmosphere, of the crust of the earth, of water, and of their influence upon the life of plants and animals was linked with this discovery."

"Knowledge of the composition of the atmosphere".

Up to this period it was still considered one of the four elementary bodies, from which all substances derive their origin.

But this ancient speculation began to tremble, and as data for its disintegration were fast accumulating, it was left for the genius of Lavoisier, to raze the last barrier, and to eradicate the vague notion of the constitution of Matter, which had existed through centuries, and tear from it the cloak that concealed its imperfections, and which had thus endowed it with powers & virtues that explain all the properties of things and the effects they produce.

The Air was found by

seem to be the result of the mechanical admixture of several Gases ... Oxygen and Nitrogen forming the bulk: the former the prime physiological necessity of life; the latter a chemically inert, odorless, transparent, tasteless gas, existing as a mere diluent in the composition of the air, and thus adapting the oxygen to the conditions of life

X.

In addition to these the principal constituents of the atmosphere, we have other gases existing in exceedingly minute amounts. It also do we find finely divided particles of matter - occurring suspended - as organized germs, dead organized matter, & mineral matter. all of which are designated as dust. But we find notwithstanding their relative insignificance as to bulk - that on their occurrence depends the purity and impurity of the atmosphere. a slight increase producing disagreable effects from a

healthful standpoint.

We first as one of the most constant of these latter constituents we have Carbonic dioxide. the oxygen of plant life. It is receive in the air from many sources. the principal sources are viz: wherever we have the combustion of carbon, in any of its various forms. in the presence of air we have this gas as one of the results. Again it is the product of Tissue Change, evolved in the respired matter of animal life. and so also do we have it as a product of

fermentation.

From these above named sources only, the amount produced is prodigious. As we find from Respiration - the amount exhaled by an ordinary adult man is estimated to be about one hundred and forty Gallons per day.

Consequently were it thus to continuously accumulate, the atmosphere would of necessity become so constituted as to prove fatal to animal life. For chemically speaking it is negatively poisonous.

But above we stated that it

that this gas may be considered as the oxygen of plant life, and as such we have an equalizing influence produced by its assimilation.

Among this minor class we may mention sulphur dioxide, existing to a certain extent over cities, principally in manufacturing districts where large quantities of coal are consumed.

Sulphuretted Hydrogen, emanating from decomposing animal matter, and naturally from volcanic regions, and in sections where

We find mineral springs.

We find also ammonia existing in minute quantities, originating principally from decomposing organic matter &c.

These latter gases are principally eliminated, by first uniting with other of ~~the~~ substances of the air are washed down thro' ~~the~~ the force of rains.

We ~~should~~ have mention ~~the~~ connection with the most constant, the vapor of water, which is found to exist in large quantities,

varying with the degree of temperature. It given up to the atmosphere through various sources; by evaporation, Respiration; and is largely thrown off by plants; indeed Ks estimated that a tree of ordinary size, throws off many gallons per day.

As to the suspended organic matter, it exists suspended in finely divided particles, accumulated by the wind as they scour the surface of the earth; forms of contag are taken up and transmitted

[illegible] rections.

It is this in the study of animal and plant life, in connection with their dependence upon the condition of the atmosphere that we are enable to recognize the beauty of the subject. We might continue as the subject may be considered almost [illegible]. but circumstances will [illegible]

To the faculty of the University
of Maryland School of Medicine.

By. Wm. L. Holliday
Washington
Georgia

Opium is one of, if not the most important of all the drugs now known to the medical profession. We are unable to say how long it has been used as a remedial agent but from the records of travel we find that it was extensively used two hundred years B. C. There is no drug that has a broader or more varied use, nor is there one that forms a more indispensable part of the physician's armamentarium than the one we are now about to consider. Its curative influence alone is sufficient to give it the most inestimable value to one who is practicing "the healing art".

Opium is obtained from the Papaver
Somniferum by incisions made
in the unripe capsules during the
period of inflorescence or shortly
after the flower has fallen. The
plant is a native of Persia but has
been cultivated in Europe Asia and in
the United States. Its cultivation in
this country however, has not been
very extensive and our commerce
is supplied by that which has been
imported chiefly from Asia Minor.
The fact that we have come from
Turkey and is known as Smyrna
or Turkey Opium. In order to
obtain the opium from the plant
the capsules are punctured or

incised, the juice exudes, which after twenty four hours or more is scraped off and is often brought to market in this form as rare specimens having been enveloped in the leaves of the plant and some also of a species of Rumex. If it does not contain the latter it may be looked upon with suspicion as being of a spurious variety. It is of a brownish or chestnut color has a peculiar bitter or pungent taste and an odour which is perfectly characteristic. In order to be fit for use it should contain six or seven per cent of Morphia, good specimens contain two or twelve and sometimes fifteen p. c. It is made into cakes of an irregular [illegible]

Oval form, which weigh from one half pound to a pound and a half. These cakes were probably originally round but have assumed this irregular form from being packed together while yet soft and plastic.

- Properties of Opium — Good opium is of a reddish brown or deep brown color in mass, and when dry yields a yellowish brown powder which becomes adhesive at a slight elevation of temperature. If drawn over a piece of paper it leaves an interrupted trace of a light brown color. Its taste and odour have already been spoken of. If it be chewed for a long time it irritates the mouth and [illegible]

even vesicate. It yields its virtues to water, alcohol and diluted acids but not to ether. — Composition —

It contains the following alkaloids in combination with meconic acid viz. Morphia, Codeia, Narcotina and Narceia, besides several others that are of no great importance as remedial agents and will not engage our attention. These have been named in the order of their importance the morphia being by far the most useful. According to the classification of Prof. Chew our distinguished teacher, this drug is a narcotic and stands first on the list of this class of medicines.

— Its effects on the system —

to effect any exciting & the amount given and the susceptibility of the patient. In small dose it acts as a stimulant to the nervous system, causing flushing sleep and relieving pain while still larger amount the sensibility to such an extent as to produce narcosis. It produces a marked effect on the nervous system, the circulatory and respiratory system and on the secretion and excretion of the organism generally.

Action on the nervous System.

In a full dose of opium to a man there is no immediate effect that is noticable unless it be a slight sensation of warmth and possibly a sense

of weight in the stomach. After a short time, however, varying according to the condition of the stomach whether healthy or diseased full or empty and also the individual's susceptibilities to its use, there is a sensation of fullness in the head soon followed by a sense of ease and comfort, and an elevation of the whole moral and intellectual functions. The last named is one of the most characteristic of its effects. This is by no means similar to the exalted action produced by alcohol but generally incites in the patient a desire to do noble acts and generous deeds of benevolence and kindness. This feeling is not generally delusive, for

The imagination is excited to the highest pitch within the range of individual capacity. "The face never has brighter hues or richer tints or greater felicity of expression, nor the child ever a more profound or penetrating insight than when under the influence of trance in this stage of its action". Besides this exalted feeling there is also increased energy and dexterity greater power of muscular endurance, thus a patient may do mental or physical labor which under ordinary conditions he would be utterly unable to perform; provided enough given has been more than this required to produce sleep.

Should the dose be sufficient to produce only light sleep there will often be a succession of dreams, such usually of a pleasant character but sometimes quite the reverse. These dreams present so much vividness that patient regards them as realities and will often declare that his eyes were not closed during the whole night, when the fact is, they were hardly opened during that period. These delusive feelings are so strong that patient often regards them as facts that have taken place, and under this excitement patients whose veracity is beyond question will make statements, which every one hearing knows to be impossible.

Under such a dose as produces this light and dreamy sleep patient will sometimes suffer with very strange feelings, often so unpleasant that patient will avow his intention never again to take a dose of opium. In such a case had a little larger dose been given no unpleasant feelings would have been present. If a full soporific dose has been given the patient will, in a period of time ranging from fifteen minutes to an hour, pass off into a profound and dreamless sleep the duration of which can be affected by various conditions that may be present.

Should the patient now be awakened before the action of the drug has passed away he will still experience

The feeling of comfort which will often continue for several hours.

On awaking after the full effect have passed away, there is generally a feeling of more or less depression present which is indicated by the languor and listlessness, relaxed muscles, loss of appetite, nausea and sometimes even vomiting. Under the influence of opium the general sensibility is diminished, and the special senses are less acute; thus a patient in a state of coma can be awakened by calling to him loudly, but will almost instantly return to a condition of profound unconsciousness as before being called. The

Appetite is diminished under the use of opium, owing to its interference with the oxidation process, thus lowering the demand.

– Action on the circulation –

In small doses it causes an increase both in the tone and fulness of the pulse, but large doses produce an opposite effect, both on the heart and the respiration. This diminished number of respirations is due to a [illegible] influence on the respiratory centre situated in the medulla oblongata.

The Secretions of the body are also altered by opium. Those of the mucous membranes generally are somewhat diminished, as is evidenced by

the dryness it produces in the mouth fauces and nostrils. That the secretion of bile is diminished by use of opium can be clearly shown in two ways viz. First, the stools are of a light color thus showing that bile is absent; this is a reliable sign. Secondly, we have a certain amount of jaundice present when it is first used for some time, thus clearly showing that bile is retained in the system.

Jaundice which is due to this cause must be distinguished from that of a functional or organic character before treatment is instituted for its relief.

The amount of urine secreted is materially diminished by its use in hab-

stance while it is increased by morphia. Besides being diminished in quantity there will often be some difficulty in expelling it from the bladder, owing to the paralyzing action on the muscular tissues of this organ. "In this condition be not in too great haste to use a catheter, but give patient a little time and with increased effort he will generally be able to effect its expulsion". The diaphoretic action of opium is very conspicuous and some claim that it is more marked if the patient be wrapped up in bed than when sitting or walking about. This is usually not noticed until some time has elapsed, for instance, if

The opium was given at night when young & led, the tightness will probably be most marked the next morning. When patient arises he will often find himself bathed in perspiration. This profuse discharge of water through the skin will help us to explain the need of the thirst which is caused by the use of opium. That the appetite is diminished, is equally well marked, one reason for this has already been given in speaking of the action exerted on the respiration. Besides it interferes with digestion by diminishing the secretion both of the gastric juice and mucus

At first time diminishing the peristalsis. The absence of the accustomed influence of the nervous system may in some measure to do with the diminished appetite. - Action on the bowels

Its action on the bowels causes constipation and this is one of its most constant effects. This is due like that of the stomach to a diminution of the secretions and the paralysing influence on the muscles which control the peristaltic movement. This secondary action on muscular tissue is not limited to the voluntary muscles and alimentary canal, but is very noticable on the muscular tissue of the bladder as already noticed.

Direct action. If Opium be applied to the skin that has been denuded of its epidermis or injected into the rectum it will produce the same effect as when swallowed. It has been used thus on indolent ulcers, and ulcerating surfaces. If it be injected into the peritoneal cavity, convulsions and death will ensue; in the hearts cavity it causes a weakness or even stops its action. Applied to the epidermis its action on the system is very slow and feeble.

— Idiosyncrasies — Opium affects some persons in a very strange way varying according to their own peculiar idiosyncrasies.

In some it produces an unusual degree of excitement simulating alcoholic intoxication, thus rendering them more or less delirious and may even produce convulsions. In others it produces a morbid wakefulness at some time nausea and even vomiting. Some individuals who suffer no inconvenience from its primary action are greatly distressed by the after effect, so much as to almost forbid its use when it would otherwise be unobjectionable. One of our standard authors says he has known it to produce violent neuralgic pains in persons who are the subject of this malady. There are also some individuals to

who are strongely affected by one of its preparations, while not so by the others. Our distinguished prof of this Chair tells us that the late prof Nathan R. Smith in his latter days could take noves of its prepara-tions except that known as Bathy Sedative Liquor.

Toxicology

Opium is often used as an instru-ment with which to commit suicide, perhaps oftener than any other drug. This is doubtless because of the idea that prevails (and by no means a false) that the death produced by opium is a very easy one. Opium is not sufficiently powerful

To overcome the stomach and thus produce instantaneous heat as alcohol has done, but it must first be absorbed and taken into the system; hence death does not occur until some time has elapsed after its introduction.

Death is produced by asphyxia which is brought about by overcoming the nerve centre which controls the heart's action. There are two very important points to be borne in mind in the treatment, which we must now about to consider.

Treatment

Our time and space will not permit us to notice the differential diagnosis between opium poisoning and

Other affections which it simulate, as we will suppose that this has been determined and proceed at once to give some of the most important points of treatment. In the present state of our knowledge there is no remedy that can be relied on, as an antidote. Almost everything has been tried and great importance attached to some that are perhaps little worthy of the importance that has been ascribed to them. It must be borne in mind that there are two very important conditions to be met viz.- First to affect its elimination from the system; and Second, to support the patient during the period of

great prostration, which ensues.

The first can often be met by the use of an emetic or the stomach-pump, and for many reasons the emetic should always be given the preference if it can be swallowed.

I will illustrate this by a case which I find recorded in one of our best works on therapeutics and give the case in the author's words.

A young man was brought to my house with the statement that he had taken solid opium. He was sent immediately to the hospital, where, as I afterwards learned, the stomach-pump was applied, and everything apparently evacuated. The patient

However, died. Death was due supposed to the retention of pieces of opium which were too large to enter the tube. I see another case recorded by some observer in which the pump had been used and an emetic subsequently given, when emesis was produced, and the evacuation smelled very strongly of laudanum; had the emetic not been given the patient would probably have died. One of these cases shows that the opium was not all removed because it was solid and the pieces of same kept, while the other proves that it was not all gotten away even when liquid

Having decided that an emetic should be given, we should select such as are rapid in their action and of a stimulating nature.
To meet these conditions there are none that are better than pulv. mustard, Sulph. Zinc or Alum.
After the emesis has taken place the next thing to do, is to support the hearts action and the respiration during the period of depression. Belladonna has the power of antagonizing opium to a certain extent, and at same time of supporting the hearts action. It should be given with this intention, remembering that

Patient is not apt to be brought to complete consciousness under its use, and also being careful not to produce Belladonna narcosis which is more the less hazardous than the conditions which we are attempting to relieve. Atropia may be given in the dose of 1/75 to hypodermically and repeated at intervals of half an hour if pupils be again contracted. The patient must be kept awake and strong coffee may be given for its well known power in this respect. It is well to keep the patient up and walking, cold affusions to the nape of the neck, irritation by flagellation etc.

The same thing might be accomplished by galvanism and would probably seem more humane. The galvanism may also be used with a view to keeping up the respiration. Put one pole over the phrenic nerve while the other is carried across the chest. Sinapisms may be applied to the legs with advantage, but do not let them remain too long. Artificial respiration should be practised in the usual way.

These means, if employed sufficiently early, will generally suffice to save the life of your patient.

W. Z. Holliday

A Thesis on

Diphtheria

by

Cameron Booth

University of Maryland
School of Medicine
Session 1881-2

Diphtheria

asthenia, or to be followed by complications chiefly affecting the nervous system or kidneys. Death frequently occurs from apnoea on account of the position of the false membrane. Some writers still consider croup and diphtheria distinct from each other, but the weight of opinion is in favor of their identity.

The exciting cause is a specific contagion and the main predisposing causes are early childhood though it may occur in adults, and catarrhal pharyngitis, or any disease which lowers the vitality

[illegible] Anti hygienic conditions favor its spread, but not to [illegible]

The virus may lie dormant [illegible]

The disease may be carried by [illegible]

[illegible] few are doubted by most writers

Opinions differ as to its

inoculability, some even going so far as to attempt it on themselves [illegible] [illegible] [illegible] [illegible] to rabbits in that way; [illegible] [illegible] blood poisoning from the decomposed matter used or [illegible] [illegible] [illegible] quite clear. It is certain that contamination from direct contact is very rare.

In solitary cases it sometimes [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] may be diffused to a great extent;

The contagion [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] inoculation. The period [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

One attack seems to give consider[illegible] [illegible] [illegible] [illegible] subsequent infection. Those who think croup and diphtheria [illegible] [illegible] each other say the croup [illegible] [illegible] prevent the infection of diphtheria and is therefore different.

The symptoms of diphtheria

increase in width and depth
and [illegible], forming a patch of
leathery membrane of variable
size. The glands of the neck swell
and the cellular tissue also.
The temperature usually declines
after the membrane is formed
[illegible]. The
membrane is apt to decompose
and become offensive.
The pulse is weak and there is
great debility and prostration
with complete loss of appetite.
The membrane may extend to
the [illegible] [illegible] death [illegible]
[illegible] with the symptoms
of croup or may extend to the

-rose, and even through the
Lacrimal duct to the eye or nose
the [illegible]
[illegible]
[illegible]
The symptoms soon rapidly
subside, and were no doubt
[illegible]
[illegible]
take an unfavorable turn,
and she may die in collapse.
Albuminuria is a common
symptom, and as such is one
of great importance or significance, though it is rarely
seen to be very grave, even in
[illegible]
extremely high attack it is often

[illegible]

[illegible] recovered.

The diagnosis of diptheria is generally quite clear, but may be difficult, either on account of the [illegible] of the attack [illegible] [illegible] [illegible] [illegible] be confounded with it [illegible] [illegible] [illegible] laryngitis and the typhoid [illegible] from some other cause. [illegible] the appearance of the throat [illegible] be no worse than in catarrhal

pharyngitis and the constitutional symptoms may be wanting; but the redness is rather more circumscribed and intense, and the glands are generally some what [illegible]. Catarrhal sore throat is frequently accompanied by patches of a whitish exudation, and is on that account sometimes called diptheria by those who want to get a [illegible] reputation for [illegible] but these patches are easily removed and do not penetrate the mucous membrane. Scarlet fever usually begins

with graver general symptoms
and the throat is uniformly
red and the deposit on it is
[illegible]
There is [illegible] and
when the rash appears this
[illegible].
Tonsillitis though [illegible]
diphtheria [illegible]
[illegible].
[illegible]
[illegible]
[illegible], but can be distinguished
[illegible] much the same way.
In very severe cases the patient
may sink into the typhoid state
[illegible] symptoms

manifested. Erysipelas, small pox, and measles, are sometimes accompanied by diphtheria

The characteristic membrane is tough, dry, yellow or grayish white, and insoluble in water resembling coagulated fibrin but is composed of [illegible] and infiltrated cells like epithelium the external one being much larger and diminishing steadily till at the bottom where they are most recent they are nearly the same as those of the membrane from which they come. The membrane

[illegible] the [illegible] forming
between [illegible] and the surface
beneath leaving the bottom ray
[illegible]
[illegible] of the
[illegible].
I have mentioned the para-
sitic theory in the description of
the disease, but many [illegible]
[illegible] eminent English microscopists
have found nothing peculiar
[illegible] the bacteria of the diphtheritic
membrane, and say that these
micrococci are only the spores of
[illegible]
[illegible]
[illegible]

should be put to bed in a well ventilated room and kept [illegible] at rest, as there is great danger of failure of the hearts action, and a slight exertion might seriously interfere with the function of that organ. The diet must be as nutritious as possible such as [illegible] with or without [illegible] &c, and should be given frequently, which is difficult, on account of [illegible]. [illegible] must be given constantly and in [illegible] quantities [illegible] with [illegible] [illegible]

the patients age, every hour or two. Quinine is sometimes required, but is not so universally needed as some practitioners think. It is so disagreeable to take and does not seem to add any thing to the other drugs in ordinary cases, but where there are marked symptoms of blood poisoning, headache or high fever it should be given in full doses for a short time but not continued if it does give relief. It is of [illegible] benefit, during convalescence, with iron. Mercury was recommended as a specific but is now

The membrane should never be forcibly detached but should be removed as soon as loosened.

In laryngo-tracheal diphtheria or true croup the treatment is rather different the local being much more important than the constitutional. Steam inhalations medicated with glycerine and lime water or lactic acid twenty minims to the ounce are used every hour or oftener and when the membrane is well formed emetics are given, or if if it is loose it may be removed with a croup

A Treatise

on

Architecture.

Presented to the faculty

of the

University of Va.

by

Richard H. Armentrout

of

West Virginia.

Diphtheria is "an acute specific contagious disease, beginning by an inflammation of the throat characterised by a local exudation, and glandular enlargements, septicemic poisoning, and having for its sequelae various paralysis". This malady was described as far back as the Christian era, but in the early part of this century it was fully described by the noted Frenchman Bretonneau, who called it "diphtherite" from the Greek word διφθέρα, a skin. Numerous epidemics have been observed in all parts of the globe since the beginning of the sixteenth century, the last of any consequence occuring in France in 1855-6, & was imported thence into Amer-

ica. It seems in any existing statistics persons of all ages and either sex, but far more frequently does it affect young children between the ages of three and six years, and that fatal-ly too. Strange as it may seem, children under the age of one year rarely contract this malady, & if they do are much easier treated than older persons. Dr. J. Lewis Smith reports one case of supposed diphtheria in which small white specks like grains of salt appeared on the tonsils of a child under six months of age, whose brother had just died of diphtheria; this eruption disappeared in a few days by using Liq. Chlorat. Potass.

That diphtheria is contagious is admitted by none, but its mode of transmission is much discussed; by some the miasm is thought to be carried by the atmosphere, while others insist that it is only spread by the excreta of the patient. It is certainly true that during an epidemic, families widely separated are attacked at the same time, when there has been no opportunity of the contagion having been transmitted by any other agency than the atmosphere. Diphtheria may sometimes is transmitted, by inoculation; many cases are on record in which the physician has been fatally inoculated. At what time the patient is most apt to impart the

disease is unknown, but we may reasonably suppose that while the diphtheritic membrane is present, any part of which will produce the disease anew, is the most favorable period of transmission. Numerous authors of high reputa hold the opinion that it can not be inoculated. Trousseau and Peter repeatedly inoculated themselves with the diphtheritic membrane, but failed to be affected, yet in almost any medical work we may find cited the sad case of Prof. Valleix, who became fatally inoculated by sucking into his mouth part of the diphtheritic membrane from the trachea of a child.

The cause of diptheria, according to the latest lights of pathology, is ascribed to bacteria, a kind of micrococci, and one of the lowest forms of animal parasites, which when grouped together in colonies irritate the surface on which they lie & penetrate to its blood-vessels, hence causing septicaemia. This is a very plausible theory & it is certain that these bacteria are found in nearly all cases of diptheria, but the same parasites are found in cholera, croup & other similar diseases; hence we might say that diptheria was the cause of bacteria, instead of bacteria being the cause of diptheria. Prof. Richard McSherry M.D. prof. of principles and practice of medicine. University Md., denies

That bacteria are the causative cause; he says that although we find the - in most cases, they should be present in all cases if they were the cause. The incubative period varies from forty-eight hours to eight days; in fact some cases are reported in which the incubative period was only a few hours.

Diphtheria is generally divided into four forms, viz., simple, confluent, ulcerative, & malignant, but separate discussions will not be necessary.

The initiating symptoms of diphtheria, prior to the exudation of lymph in the fauces do not furnish anything as to the severity of the case or what parts will be most affected by the inflammatory exudation. The at-

-tack may be, first, acute, which comes on with a chill followed by a high fever; second, it may come on slowly, the patient having a general feeling of "malaise" slight headache, want of appetite &c., the exudation being very slowly formed and not of a distinct character. The symptoms may be best described by referring to the anatomical systems which are affected - viz., the skin, respiration, digestion, circulation, urination, & the nervous centers.

The skin. There is no characteristic cutaneous eruption. There may be different kinds of eruptions, but none are to be employed in diagnosis; it is but little increased in heat, but may

present an anaemic aspect.
Respiration is, when the formation of the diphtheritic membrane is profuse, sometimes mechanically impaired; it is ~~[illegible]~~ slightly hurried during the febrile state. The membrane is expelled from the air passages, after its exfoliation, by coughing.
Digestion. One of the most important symptoms we have to deal with in diphtheria is anorexia; the patient is necessarily pained in the act of deglutition, and even after he may have mastered the pain of letting the food pass over the affected part, it is often rejected. Children will sometimes have to be forced to take nourishment, or nutritious injec-

tions must be employed. In the mild form the patients may only complain of languor, malaise, and indeed attention may only be attracted by his pallor & loss of appetite &c. When on examination of the fauces we may find the usual tonsils swollen very much with a slight exudation on one or both tonsils. Yet there is seldom if ever present the great pain of swallowing which attends ordinary tonsillitis. The lymphatic glands near the angle of the lower jaw may become involved. From this point the diphtheritic membrane may spread to the adjacent parts, or the patient

convalescence. If it spreads it's next seen in the nose, followed by epistaxis or a bloody odour the case will favorably prove fatal. The first exudation of this false membrane is sometimes seen on the inside of the cheek or gums. The temperature is not a diagnostic point. It may remain nearly normal throughout the attack. When the larynx and trachea are involved it generally rises higher & may even rise to 106°-107°.

Circulation. The pulse is in the first fragment, but later on falls below the average number of beats per minute. If the pulse be irregular & not depending upon any organic disease of the heart it may be considered unfa-

-vorable sign. Hemorrhage sometimes occurs from the mouth and fauces; epistaxis often requires especial treatment and may be considered as another very unfavorable symptom.

Urination. Albuminuria or haematuria or both may be present; the former generally from the first. There has been scarcely sufficient research made as in regard to these organs to affirm with certainly what pathological changes they undergo.

Nervous centers. The mind is not affected to any degree of importance in the milder forms of this malady, but delirium ... may intervene at any stage of the disease, the

latter generally introducing a fatal issue. Delirium is generally mild and passive but may be active. Headache is often the symptom that ushers in this disease. The sequelae of this disorder are as dangerous if not more so than the disorder itself. The most serious and common is paralysis of the voluntary, and occasionally of the involuntary, muscles; this may appear some at [illegible] of desquamation, any time for four weeks after convalescence has commenced. The muscles of the pharynx are often affected with those of the soft palate, the first indication of such a paralysis being difficulty in swallowing, and on examining the palatine muscles are found in a re-

laxed condition and insensible to irrita-
tion. When the laryngeal muscles are
affected there is a notable change
of voice - Paraplegia or hemiplegia may
either occur. Anesthesia or acinesia often
accompanies paralysis of the lower extrem-
-ities. Disorders of the special senses, more
notably of sight, are prevailing symp-
toms. Presbyopia, miopia and strabismus
are the most common defects. The first
two mentioned may be corrected by glasses.
Loss of virile power is often a sequelae
of this disease. In malignant cases of dip-
theria prostration or anaemia may
come on from the first - Paralysis
very rarely proves fatal, but recovery
generally takes place in two or three months,
the patient gradually regaining the use of the affected parts.

Diagnosis. The diagnosis of diphtheria from true croup is exceedingly difficult. Dr. J.S. Atkinson, Prof. Pathology, University Md, clinical " Dermatology " Hospital denies that there is any essential difference. He affirms that one will imperceptibly pass into the other, and that many cases of so-called (so called) reported to medical societies, are said to be followed in a few days by diphtheria and vice versa. Dr. Barthelow states that the two diseases may be distinguished by strictly observing the following points; 1st. Croup is a local infection and is not contagious; 2nd - The exudation of croup is not specific and is only formed on mucous surfaces - 3rd. croup does not cause systemic affections and

is not attended by albuminuria. Croup occurs sporadically and has been known to follow on a single exposure to cold or bad raining weather; diphtheria appears epidemically and is not known to have followed exposure. If a patient suffering from diphtheria have a granulating wound, the exudation is very apt to show itself at the seat of injury, which does not occur ... [illegible] ...

The next disease from which we shall have to diagnose diphtheria is scarlatina; this generally speaking is not difficult. In scarlatina we have intense diffuse redness of the whole membrane affected, which in diphtheria the redness is only about the infected area. In scarlet fever the exudation is in both tonsils

and sometimes on the palate, is soft and resembles curds; in diphtheria it commences at one or more spots, is attached to the epithelium & is of a grayish-yellow or brownish color; in scarlatina the initiating symptoms are violent — convulsions, delirium etc. from the first; in diphtheria they are less severe, no convulsions or delirium being present, and the temperature is only slightly increased. In scarlatina the general rash appears on the first or second day; in diphtheria there is no eruptive fever, or none that is pathognomonic of the disease. Thrush, or what is commonly known as thrush may occasionally be mistaken for diphtheria. In thrush the exudation may easily be scraped off without affecting the mucous surface on which it lies, and

only occurs in children who are being nursed. If there be any difficulty in diagnosing these diseases, the microscope will speedily dispel all doubt.

Follicular pharyngitis is occasionally mistaken for diphtheria, especially by the school of Homeopathy, but the extent and situation of the attack, together with its mode of attack and easiness of cure, excludes it from diphtheria.

Prognosis. The prognosis is uncertain inasmuch as death may occur from so many different causes. Of course, in mild epidemics when the fauces are only slightly swollen & the exudation is scant, attended with no constitutional disturbance, the patient generally recovers, if no unfavorable symptoms intervene. But at times when the patient is to all appear-

cases convalescing, there may be a sudden aggravation of unfavorable symptoms & the patient may die before the physician can be summoned. Death may occur from either of the following causes, viz. diphtheritic blood poisoning; septic blood poisoning; uraemia; asthyxia; sudden failure of the heart's action; & congestion or oedema of the lungs. From the above list, it is evident that a physician must needs be careful of his prognosis in diphtheria if he would preserve his reputation. Still, if the exudation shows no tendency to spread attended with little or no fever or other constitutional symptoms, you may give a favorable prognosis as to [illegible]. Dr. J. Lewis Smith of N. Y. gives the following points as indicating an unfavorable prognosis, viz., "Repugnance to food, vomiting, pallor with pro-

gressive weakness and emaciation from blood poisoning; a large amount of albumen with casts in the urine, showing uraemia, to which the vomiting is occasionally due; a free discharge from the nostrils or occlusion of them by inflammatory thickening and exudation, showing that a considerable portion of the Schneiderian membrane is involved. Hamernjak from the nostrils or fauces & obstructed respiration." He says that one of the above mentioned symptoms at least, was present in nearly every fatal case which he has observed.

Morbid anatomy. From what has been said of the cause, symptoms &c. of this disease we might readily infer that the morbid changes which accompany it are almost limited to the inflamed surface; such is, as stated by Bristowe the case. The exudation, mucous

surfaces and lymph spaces are found gorged with leucocytes & bacteria - Gangrene occasionally occurs. The exudation takes the form of the surface on which it lies, & fits closely in the irregular parts. When the air passages are affect . . . lobular pneumonia often occurs, generally accompanied by emphysema, sometimes restricted to the lobular form, sometimes general. In the worst forms hemorrhage may occur in the liver, lungs, kidneys or viscera. The kidneys are almost universally affected from the first; they become swollen & in severe cases intensely hyperaemia capillary hemorrhage occurs in the Malpigian tufts. The tubular epithelium often becomes granular and detached & is thrown off in the urine in the form of casts, which may readily be detected under the microscope. The brain shows important changes, such

as hyperaemia, capillary hemorrhage, thickening of the spinal nerve roots, while in the sheath of the nerve extravasation of blood occurs, and is filled by lymph cells. These lesions of the nervous centers explain the paralytic sequelae. Capillary hemorrhage may occur in any part of the muscular system & cause little red spots of blood to be seen. The muscular tissues of the heart may become softened, & are easily torn; some of the fibers are far advanced to fatty degeneration & capillary hemorrhage may occur in its structure.

Treatment: The treatment is either local or constitutional; if the theory of a local infection be adopted it is of the highest importance to destroy the first [illegible] of exudation that are seen. Brettonneau believed in this theory. Solutions of nitrate silver, iron, salicylic acid, chlorate of potassa borax, chloral &c. all have their advocates.

Dr. J. Lewis Smith prefers one of the following used with a long [illegible] atomiser – ℞, Acid salicylic, ʒss; Glycerine, ℥ij; Aqua calcis, ℥viij. M. ℞. Acid Carbolic, Gtts. xxxij; Glycerine, ℥ij; Aqua calcis, ℥vj. M – ℞. Acid carbolic, Gtts xxxij; Chlorat. potass, ʒiij; Glycerine, ℥iij; Aqua calcis, ℥v. M. Dr. Wm. T. Howard, Prof. of diseases Women & Children, University Md. is very fond of the following, viz. ℞ Carbolic acid, Gr x; Ferri subsulphas ʒj; Glycerine ℥j. M – Sig – Spray &c. Acid drinks, such as lemonade may be freely administered. Lactic acid in the following formula is said to be a good solvent for the diphtheritic membrane; ℞. Lactic acid ʒiijss; aqua distil., ℥x – M – Sig. Gargle. Thymic acid is also much exalted; [illegible] is preferred by others. The constitutional treatment consists is strict hygenic rules, which must be infor-

-ced, together with tonics such as quinine and iron. Alcohol must be used if the patient become weak or exhausted, either in form of brandy, wines or milk punch.

Tracheotomy is the last resort, but must not be neglected on that account. When exudation is in the trachea or large bronchi does not extend into the minute bronchi, the operation may bring about favorable results. A description of this operation is not necessary in this paper, but refer you to any minute surgery as Prof. Gross.

Richard H. Summerville.

West Virginia.

Inflammation
Pathology and Treatment.

William Kehne.

Inflammation

Pathology and Treatment

The older writers on pathology considered inflammation a disease distinct and characteristic, this view is now almost entirely abandoned by modern writers, who regard it as a [illegible] increase of action in a part altered nutrition. Generally accompanied with pain, heat redness and swelling, or a modification of the phenomena of the natural life of the tissues due to the action of an irritant no matter whence derived.

When a physiological or normal stimulus is applied to healthy living tissue the [illegible]

is the natural function of [illegible] tissue, as for example the excitability of a nerve contractility of a muscular fibre secretory function of a gland &c. But if the stimulus be an unhealthy one, it becomes an irritant and gives rise to a morbid reaction called Irritation. Even a normal stimulus may become an irritant if the tissue be unduly irritable as the result of a nervous disease, or from defective nutrition from impure blood, or any interference with the normal condition of that process.

This morbid action whereby an irritated part resents an injury seems to be of the nature of an

or indirectly by reflex irritation originating in an eccentric peripheral irritation of afferent nerves.

The [illegible] term an irritation so often used is a vague and undefined one, is ambiguous [illegible] [illegible] and complex [illegible] [illegible] physical [illegible], [illegible] of conducts conveying a fluid provided through them, under the influence of the [illegible], of [illegible] distinct organ. When the contractile function of an artery is increased there is a diminution [illegible]. When the veins are contracted there is an increased resistance to the outflow of blood, and consequently

a passive congestion in the capillaries.
When there is both an increased supply by the arteries, and an increased discharge by the veins, a condition known as Determination or increased afflux of blood, and this is what is usually meant by those who use the term vascular congestion. It usually depends not on irritation but paralysis of the contractile elements of the vessels and may be produced at will by cutting the vaso motor nerves which supply the vessels.

It is true that the same effect may be produced by nutritive or secretory irritation. For owing to the natural sympathies which

Effect an adjustment between the organs which expend the nutritive fluid, and those which regulate the supply. Whenever there is an increased demand for blood to be expended in nutrition or secretion, the vessels accommodate themselves to meet this demand by some such mechanism, doubtless as a temporary reflex paralysis of the vaso motor nerves that is to say by [illegible].

In action determination there is increased rapidity of the circulation in the enlarged vessels but in passive hyperaemia or congestion the circulation is retarded. Causes of congestion are 1st Venous obstruction. 2nd Venous atony

3rd Arterial constriction when it exceeds certain limits. 4th Arrest of the usual chemico-vital changes taking place just outside of and in the capillaries. 5th Inflammatory congestion of which the [illegible] explanation is unknown a lesion of nutrition. Cloudy swelling being the first indication we see, and is the first stage of inflammation, a morbid hypertrophy.

In inflammation of one kind or another all these modes of irritation are observed. The phenomena take place in about the following order of sequence.

Nutritive irritation manifested by a morbid hypertrophy, giving rise

in transparent tissue to a cloudy swelling
2nd Hyperaemia as a consequence of the
increased demand for blood. For
says Simon A part does not inflame
because it receives more blood but
it receives more blood because it
is inflamed. 3rd Functional irritation
whether of the nerves or muscular
elements as a whole.
4th Retardation of the current in the
distended vessels although they remain
in the condition of dilation which on
physical principles would favor
an increased circulation. This is dif-
ferently explained by different writers.
The theory most generally accepted is
that retardation allows time for

exudation of the fluid, and the white corpuscles of the blood. 5th stage of proliferation or hyperplasia. 6th various ulterior changes leading to the various terminations or effects of inflammation.

In speaking of the exudation theory Prof. Lister affirms as the result of his examinations that the current is retarded before there is any appreciable exudation. He considers this retardation while the vessels are still dilated to constitute the distinctive feature of inflammation and explains it by assuming that the circulation in health is maintained in part by certain vital attractions & repulsions between the blood vessels and tissues and that

when as the effect of a lesion the vitality is lowered; and thus the circulation is retarded. Virchow denies the reality of exudation and contends that the "so called exudations" are the products of a morbid nutrition, which with him is the essence of inflammation. Bennet proposed indeed to lay aside the term inflammation as a misleading one and to designate the process by the term exudation. Cohnheim maintains that the leucocytes found in inflammatory lymph are not as Virchow contends the result of proliferation of connective tissue corpuscles but are wandering cells which have migrated from the

interior of the blood vessels.

Again Stricker & others contend that only a part of these cells are derived from the blood by emigration, others being produced by tissue germination or proliferation

The changes which inflammatory lymph may undergo, giving rise to the terminations or effects of inflammation are - Absorption - Organization - Degeneration & Death

The effects produced by the absorption of inflammatory lymph are, dilitescence, resolution, congestion from a long distension of blood vessels - Effusion of serum - Effusion of blood manifested by hemorrhage, extravasation or infiltration.

Blood not discharged from a vessel can no longer avail for nutrition of the system - hence it may act as an irritant causing local secondary inflammation. Or should it decompose before it is observed may give rise to dangerous constitutional troubles in the form of Septicaemia.

The effects which coincide with the Organization of lymph are Union of divided parts - Union of opposite surfaces of inflamed serous membranes by intermediate bands of newly formed tissue. Formation of pseudo membranes on the surface of mucous membranes as in membranous croup - Filling up of chasms by cicatricial tissue,

and Sclerosis or increased development of connective tissue.

Lymph may undergo the following degenerations Horny. Fatty. Caseous Pigmentary. Calcarious. Purulent. Tubercular, if a tubercular diathesis preexists, Waxy. Lardacious. Bacony and Albuminoid.

The effects which coincide with the death of Lymph are ulceration or death by small particles. And Gangrene which is death of considerable mass.

Time and space will not [illegible] of a description of the inflammation of different tissue. The process is essentially the same

in the. In non vascular tissue the changes take place as in Cartilage, in the vessels of the adjacent synovial membrane from which it receives its nutritive supply

Treatment

The treatment of inflammation is so materially modified according to circumstances, and the stage of the inflammatory process, that it is hard to lay down even more than a general outline.

The first indication is to subdue the morbid process and prevent or limit the accumulation of the various products and Effusions.

In order to carry out this function

is essential.

I Remove the cause, sequences, ... ces. and put the part at rest, physiological as well as physical

II Diminish flow of blood to the part.

III Assist the removal of the products of inflammation

IV Restore tone to the part.

- Local Treatment -

Cold applications in the early stages greatly assist in promoting resolution Warmth and moisture in the form of poultices are used in the second stage, and when suppuration is impending.

Warm carbolized water for suppuration

wounds serves as an antiseptic as well as to keep the parts clean which is important. The local use of narcotics as often administered, they may be used in connection with warmth, as in the form of hot poultice often employed in peritonitis.

Stimulants and Astringents in the local treatment of inflamed mucous membranes are most important. A Solution of Sulphate of Zinc in Conjunctivitis and Gonorrhea. Position and Incisions to relieve tension. Compression in the later stages when the parts are left flabby and relaxed.

The French system of the cure of

of friction, "Massage", is often soothing in the early stage of inflammation & may be of benefit in assisting resolution. Dr. Ashhurst says he has found it of great use in the treatment of mammites, it may also be employed in cases of spasm.

Constitutional Treatment.

Bloodletting general and local was in times past the great remedy but then an but few cases which demand the former, the latter is frequently most serviceable for by this means the vessels of a part can be considerably relieved and thus a most beneficial local effect produced.

Another [illegible] of diminishing the afflux of blood to a part is found in those remedies which exercise a direct influence upon the hearts action. as Aconite. Veratrum Viride &c. Pater Emetic also exerts a powerful influence over the heart while at the same time it increases some of the [illegible].

A class of remedies often of value if properly employed are those which increase the principal excretions viz. purgatives. diaphoretics, and diuretics; of course these remedies are severally contraindicated if there is any local inflammation of the intestines, skin, or kidneys.

In order to aid absorption certain medicinal agents are used. Of these mercury is very commonly employed.

In many cases the products of inflammation can not be absorbed. Then it is necessary to have recourse to operation for their removal.

In certain forms of inflammation certain special remedies are called for. As mercury and iodide of potash in Syphilis Colchicum in gout. Iron in Cachexia.

Quinia, in large doses, if given in the early stages of inflammation, lessens the vascular, and amoboid movement of the leucocytes, and in this way it seems to come to arrest the

inflammatory [illegible].

The various constitutional disturbances as they arise must be [illegible].

Diet must be regulated according to circumstances. Should there be any tendency to depression, nourishing diet and stimulants are called for.

Drugs such as Quinine [illegible] acids, Iron as well as Cod liver oil, are also indicated, especially if ulceration or gangrene [illegible].

Among the prominent local symptoms to be treated is pain. For its relief many of the local remedies that have been considered as valuable but Opium is the sine qua non.

It is the direct opposite of what

we have seem to be the first
and most important condition
for recovery Viz- functional
and physiological rest.

Very Respectfully
William Nelson
Class of 1881-1882.